

# **Faculty of Veterinary Medicine**

**Self Evaluation Report  
for the  
European Association of  
Establishments for Veterinary Education**

**Main Volume**  
Leipzig, October 2008

## TABLE OF CONTENTS

|                         |  |    |
|-------------------------|--|----|
| <b>INTRODUCTION</b>     |  | 5  |
| <b><u>CHAPTER 1</u></b> | <b><u>OBJECTIVES</u></b>                                     | 12 |
| 1.1                     | FACTUAL INFORMATION  | 12 |
| 1.2                     | COMMENTS   | 13 |
| 1.3                     | SUGGESTIONS  | 13 |
| <b><u>CHAPTER 2</u></b> | <b><u>ORGANISATION</u></b>                                   | 14 |
| 2.1                     | FACTUAL INFORMATION  | 14 |
| 2.2                     | COMMENTS   | 19 |
| <b><u>CHAPTER 3</u></b> | <b><u>FINANCES</u></b>                                       | 20 |
| 3.1                     | FACTUAL INFORMATION  | 20 |
| 3.1.1                   | GENERAL INFORMATION  | 20 |
| 3.1.2                   | INFORMATION ON EXTRA INCOME                                  | 21 |
| 3.1.3                   | OVERVIEW INCOME (REVENUE) AND EXPENDITURE                    | 22 |
| 3.2                     | COMMENTS   | 22 |
| 3.3                     | SUGGESTIONS  | 23 |
| <b><u>CHAPTER 4</u></b> | <b><u>CURRICULUM</u></b>                                     | 24 |
| 4.1                     | FACTUAL INFORMATION  | 24 |
| 4.1.1                   | POWER OF SUBJECTS AND TYPES OF TRAINING                      | 25 |
| 4.1.1.1                 | POWER OF SUBJECTS  | 25 |
| 4.1.1.2                 | TYPES OF TRAINING  | 25 |
| 4.1.1.2.1               | THEORETICAL TRAINING   | 26 |
| 4.1.1.2.2               | SUPERVISED PRACTICAL TRAINING                                | 26 |
| 4.1.2                   | UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS            | 26 |
| 4.1.2.1                 | GENERAL COMMENTS TO THE NEW CURRICULUM                       | 32 |
| 4.1.2.2                 | CURRICULUM HOURS   | 36 |
| 4.1.3                   | FURTHER INFORMATION ON THE CURRICULUM                        | 48 |
| 4.1.4                   | OBLIGATORY EXTRAMURAL WORK                                   | 50 |
| 4.1.5                   | SPECIFIC INFORMATION ON PRACTICAL TRAINING IN FOOD HYGIENE   | 52 |
| 4.1.6                   | RATIOS   | 53 |
| 4.1.6.1                 | GENERAL INDICATORS FOR TYPES OF TRAINING                     | 53 |
| 4.1.6.2                 | SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/PUBLIC HEALTH | 54 |
| 4.2                     | COMMENTS   | 55 |
| 4.3                     | SUGGESTIONS  | 55 |

|                  |  |    |
|------------------|--|----|
| <b>CHAPTER 5</b> | <b>TEACHING: QUALITY AND EVALUATION</b>                          | 56 |
| 5.1              | FACTUAL INFORMATION  | 56 |
| 5.1.1            | THE TEACHING PROGRAMME   | 56 |
| 5.1.2            | THE TEACHING ENVIRONMENT   | 58 |
| 5.1.3            | THE EXAMINATION SYSTEM   | 59 |
| 5.1.4            | EVALUATION OF TEACHING AND LEARNING                              | 64 |
| 5.1.5            | STUDENT WELFARE  | 65 |
| 5.2              | COMMENTS   | 68 |
| 5.3              | SUGGESTIONS  | 68 |
| 5.4              | STUDENTS COMMENTS AND SUGGESTIONS                                | 68 |
| <b>CHAPTER 6</b> | <b>FACILITIES AND EQUIPMENT</b>                                  | 72 |
| 6.1              | FACTUAL INFORMATION  | 72 |
| 6.1.1            | PREMISES IN GENERAL  | 72 |
| 6.1.2            | PREMISES USED FOR CLINICS AND HOSPITALISATION                    | 75 |
| 6.1.3            | PREMISES FOR ANIMALS   | 75 |
| 6.1.4            | PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING | 78 |
| 6.1.5            | DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES            | 81 |
| 6.1.6            | SLAUGHTERHOUSE FACILITIES  | 82 |
| 6.1.7            | FOODSTUFF PROCESSING UNITS                                       | 82 |
| 6.1.8            | WASTE MANAGEMENT   | 83 |
| 6.1.9            | FUTURE CHANGES   | 84 |
| 6.2              | COMMENTS   | 84 |
| 6.3              | SUGGESTIONS  | 84 |
| <b>CHAPTER 7</b> | <b>ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN</b>            | 85 |
| 7.1              | FACTUAL INFORMATION  | 85 |
| 7.1.1            | ANATOMY  | 85 |
| 7.1.2            | PATHOLOGY  | 86 |
| 7.1.3            | ANIMAL PRODUCTION  | 86 |
| 7.1.4            | FOOD HYGIENE/PUBLIC HEALTH                                       | 87 |
| 7.1.5            | CONSULTATIONS AND PATIENT FLOW SERVICES                          | 89 |
| 7.1.5.1          | CONSULTATION   | 89 |
| 7.1.5.2          | PATIENT FLOW   | 89 |
| 7.1.6            | VEHICLES FOR ANIMAL TRANSPORT                                    | 90 |
| 7.1.7            | ON-CALL EMERGENCY SERVICE  | 90 |
| 7.1.8            | ON FARM TEACHING AND OUTSIDE PATIENT CARE                        | 91 |
| 7.1.8.1          | AMBULATORY (MOBILE) CLINIC                                       | 91 |
| 7.1.9            | OTHER INFORMATION  | 92 |

|                   |  |     |
|-------------------|--|-----|
| 7.1.10            | RATIOS   | 95  |
| 7.2               | COMMENTS   | 97  |
| 7.3               | SUGGESTIONS  | 97  |
| <b>CHAPTER 8</b>  | <b><u>LIBRARY AND LEARNING RESOURCES</u></b>           | 98  |
| 8.1               | FACTUAL INFORMATION                                    | 98  |
| 8.1.1             | LIBRARY  | 98  |
| 8.1.2             | INFORMATION TECHNOLOGY SERVICES                        | 99  |
| 8.2               | COMMENTS AND SUGGESTIONS                               | 100 |
| <b>CHAPTER 9</b>  | <b><u>ADMISSION AND ENROLMENT</u></b>                  | 101 |
| 9.1               | UNDERGRADUATE COURSES                                  | 101 |
| 9.1.1             | UNDERGRADUATE STUDENT NUMBERS                          | 101 |
| 9.1.2             | STUDENT ADMISSION                                      | 101 |
| 9.1.3             | STUDENT FLOW   | 104 |
| 9.2               | COMMENTS   | 105 |
| <b>CHAPTER 10</b> | <b><u>ACADEMIC AND SUPPORT STAFF</u></b>               | 106 |
| 10.1              | FACTUAL INFORMATION                                    | 106 |
| 10.2              | COMMENTS   | 112 |
| <b>CHAPTER 11</b> | <b><u>CONTINUING EDUCATION</u></b>                     | 113 |
| 11.1              | FACTUAL INFORMATION                                    | 113 |
| 11.2              | COMMENTS   | 117 |
| 11.3              | SUGGESTIONS  | 117 |
| <b>CHAPTER 12</b> | <b><u>POSTGRADUATE EDUCATION</u></b>                   | 118 |
| 12.1              | FACTUAL INFORMATION                                    | 118 |
| 12.1.1            | CLINICAL SPECIALTY TRAINING<br>(INTERNS AND RESIDENTS) | 119 |
| 12.1.2            | RESEARCH EDUCATION PROGRAMMES                          | 119 |
| 12.2              | COMMENTS   | 119 |
| 12.3              | SUGGESTIONS  | 120 |
| <b>CHAPTER 13</b> | <b><u>RESEARCH</u></b>                                 | 121 |
| 13.1              | FACTUAL INFORMATION                                    | 121 |
| 13.2              | COMMENTS   | 121 |
| 13.3              | SUGGESTIONS  | 121 |

## INTRODUCTION

The last (and first) evaluation of the Faculty of Veterinary Medicine took place in 1998. Since that time, we celebrated the 225<sup>th</sup> anniversary of foundation in 2005. The celebrity showed the successful consolidation and renovation of the Faculty since its re-founding in summer 1990 (shortly prior to German reunification). This re-founding was accompanied by a restructuring of the Faculty characterized by major improvements in the conditions for teaching and research. Meanwhile, the Faculty of Veterinary Medicine has reaffirmed its position as an integral part of the University of Leipzig as one of the 16 faculties and gained a reputed profile in teaching and research and a competitive role among the five veterinary educational establishments in Germany. The Faculty in Leipzig is the smallest one in Germany and has become more and more attractive for students with an increasing ratio of applicants/places amounting to 1/1 in 1993, to 5.2/1 in the winter term 2004/2005, and to 6.7/1 in the year 2007. The close contact between the students and the academic staff and the emphasis on practical training are distinguishing features in the respect.

### Main organisational changes

#### *Establishment of Centres*

In 2008, the Faculty Council decided to establish the following centres clustering related disciplines:

|   |   |
|---|---|
| <b>Centre for Pathology and Anatomy</b>     |   |
|   | Department of Anatomy, Histology and Embryology                 |
|   | Institute of Pathology  |
| <b>Centre for Veterinary Basic Sciences</b> |   |
|   | Institute of Physiological Chemistry                            |
|   | Institute of Physiology   |
|   | Institute of Animal Nutrition, Nutrition Diseases and Dietetics |
|   | Institute of Pharmacology, Pharmacy and Toxicology              |
| <b>Centre for Veterinary Public Health</b>  |   |
|   | Institute of Food Hygiene                                       |
|   | Institute of Animal Hygiene and Veterinary Public Health        |
| <b>Centre for Infectious Diseases</b>       |   |
|   | Institute of Parasitology                                       |
|   | Institute of Bacteriology and Mycology                          |
|   | Institute of Virology   |
|   | Institute of Immunology   |

| <b>University Veterinary Hospital</b> |  |
|---------------------------------------|--|
|                                       | Large Animal Clinic for Internal Medicine                      |
|                                       | Large Animal Clinic for Surgery                                |
|                                       | Large Animal Clinic for Theriogenology and Ambulatory Services |
|                                       | Department of Small Animal Medicine                            |
|                                       | Clinic for Birds and Reptiles                                  |

The aim of the formation of the centres is pooling of the strengths for research, teaching and service and further distinguishing the profile and competitiveness of the Faculty and its institutions. The main objectives are

- harmonizing of teaching and improvement of interdisciplinary teaching
- increased cooperation in research projects and common raising of grants
- establishment of common internal and external postgraduate and continuing education programmes
- coordination of services
- common use of laboratories, equipment and personnel
- development of common concepts for quality assurance
- coordinated presentation to the public

The centres are directed by a Management Board and an elected speaker who coordinates the activities and represents the centre to the outside. The centres may appoint an advisory board of external scientist.

Within the centres each institute or clinic remained a separate administrative unit with regard to administration, budget, personnel and equipment.

### ***New Clinical Departments***

#### *Clinic for Birds and Reptiles*

As consequence of the increasing demand the Faculty established the Clinic for Birds and Reptiles in 2007 as a separate institution which was formerly a section of the Department of Small Animal Medicine. Simultaneously the rank of the professorship for Avian and Reptile Diseases was upgraded from C 3 (corresponding to Associate Professor) to W 3 (corresponding to Full Professor).

#### *Unit for Ungulate Medicine*

In 2008, a separate unit for Ungulate Medicine (small and large ruminants, swine) has been established in the University Veterinary Hospital. The new unit includes the professorships for Internal Medicine of Ruminants, Swine Diseases and Herd Health Management and Reproductive Medicine.

### **Quality management**

The Faculty has implemented procedures for continuing evaluation of the quality of teaching. This include online evaluation by students of at least one course per year in each subject taught and of the newly established modular teaching, evaluation of extramural training by students and the extramural instructors. In a further evaluation, alumni and staff members of the Faculty were asked for their opinion and experience on various aspects of veterinary education, academic affairs, working environment, career development etc. So far, the evaluations yielded good rankings of the teaching quality at the Faculty.

Increasing demands on quality assurance in scientific institutions and veterinary service facilities require the implementation of comprehensive quality management systems. Preparations for accreditation are running in various institutions of the Faculty. Laboratories of the Institute of Food Hygiene were accredited in quality management audits (ISO 17025) for microbiological, molecular biological and chemical investigations of food samples from food industry.

For quality assurance of the conduct of clinical and experimental animal studies a Coordination Staff for Veterinary Clinical Studies (Koordinationsstelle für Veterinär-klinische Studien, **koVET**) has been inaugurated at the Faculty. This innovative facility interconnects research activities and scientific expertise of the institutes and clinics to improve the basis for the conduct of clinical studies. Moreover koVET acts as interface between the university and external partners (e.g. pharmaceutical industry). Services provided include

- planning of projects
- developing study protocols
- coordination of the studies
- staff-training
- documentation
- quality assurance and control according to GCP (Good Clinical Practice)

in order to conduct clinical studies of high quality precisely matching the actual needs.

In order to assure prudent and safe use of veterinary drugs, the Institute of Pharmacology, Pharmacy and Toxicology has established the internet-based information system VETIDATA. This database provides comprehensive information on all veterinary medicines on the market, legal provisions of use and avoidance of harmful residues. VETIDATA is available to all veterinarians on payment. So far, more than 4.000 users of all fields of veterinary profession (practitioners, veterinary inspection, ministries, pharmaceutical industry) are registered. The clinics and students of all German veterinary faculties have free access to use the database for self-directed e-learning.

### **E-learning**

The electronic learning platform "moodle" has been established to improve information flow, to support organisation of teaching, to make the curriculum more transparent to students and lecturers and to make information related to teaching units easier accessible (downloads of presentations, PDF files etc.) and to assist self directed learning. This platform is accessible to all students and teachers.

## New regulations relating to teaching

The former „*Tierärztliche Approbationsordnung* (TAppO) “was replaced by the „*Tierärztliche Approbationsverordnung* (TAppV“) in October 2006. Based on this federal legislation new Teaching rules (*Studienordnung*) and Examination rules (*Prüfungsordnung*) were put into action in October 2007. To organise teaching evaluation the “*Lehrevaluationsordnung*” (Teaching Evaluation Order) and the “*Lehrevaluationsplan*” (plan for evaluation of teaching quality) have been introduced. Specific rules for the various practical courses are continuously adapted, where necessary, to the current requirements and conditions.

The Saxon University Law (*Sächsisches Hochschulgesetz*) is currently under revision and will prospectively be in force in 2009.

## New buildings or major items of equipment

| <b>Campus</b>  | <b>Commissioning</b> |
|--|----------------------|
| Central Building for Teaching with library and canteen   | 2008                 |
| Facility for Primates  | 2007                 |
| Department of Small Animal Medicine  | 2000                 |
| Large Animal Clinic for Internal Medicine  | 2000                 |
| Institutes for Food Hygiene, Physiological Chemistry and Animal Hygiene and Veterinary Public Health | 2000                 |
| Technology (caretaker)   | 2000                 |
| Alteration and regeneration of the collection system   | 1999                 |

| <b>Oberholz Farm of Teaching and Research</b> | <b>Commissioning</b> |
|---|----------------------|
| Stable for sheep with stockroom               | 2007                 |
| Stable for equines with stockroom             | 2005                 |
| Regeneration of the collection system         | 2005                 |
| Stables for cattle and hogs                   | 2000                 |

| <b>Equipment</b>                                    | <b>Commissioning</b> | <b>Institution</b>  |
|---|----------------------|---|
| Scintigraphy unit (MIE)                             | 2006                 | Large Animal Clinic for Surgery                                 |
| Transmissions Electron Microscope (Zeiss Libra 120) | 2006                 | Institute of Anatomy, Histology and Embryology                  |
| Improvision-image editing system with microscope    | 2004                 | Institute of Anatomy, Histology and Embryology                  |
| Accessories for SEM                                 | 2002                 | Institute of Anatomy, Histology and Embryology                  |
| Automatic feeder unit                               | 2001                 | Institute of Animal Nutrition, Nutrition Diseases and Dietetics |
| High-End ultrasonic colour Doppler system           | 1999                 | Large Animal Clinic for Theriogenology and Ambulatory Services  |
| Scanning Electron Microscope (SEM)                  | 1999                 | Institute of Anatomy, Histology and Embryology                  |
| Static Fluoroscopy System                           | 1999                 | Clinic for Small Animal Medicine                                |
| Digital Radiography System                          | 1999                 | Clinic for Small Animal Medicine                                |

### **Main changes to the study programme**

The curriculum has been considerably changed as explained in detail in chapter 4.1.2.1 (General comments to the new curriculum). In short, education in basic natural sciences is condensed in the 1<sup>st</sup> term, clinical rotation has been introduced in the 2<sup>nd</sup> year (terms 3 and 4), large proportions of theoretical education are organised as problem-based teaching in modules, clinical electives are re-arranged in a way to allow a certain degree of specialisation and self-directed learning, a clinical year will be established in terms 9 and 10. MC examinations follow most modules. These changes have also profound impact on organisation of teaching in those subjects/topics that are not integrated into the modules (e.g. courses and lectures in infectious diseases completely taught in term 6 instead of dissemination over terms 5 to 7).

### New professorships since last evaluation

| Subject  | Rank | Status of appointment             |
|--|------|-----------------------------------|
| Avian and Reptile Diseases                       | W 3  | appointed                         |
| Herd Health Management and Reproductive Medicine | W 2  | list for re-appointment completed |
| Swine Diseases                                   | W 2  | list completed                    |
| Internal Medicine of Small Animals               | W 2  | appointment pending               |
| Milk Hygiene                                     | W 1  | appointed                         |
| Molecular Pathogenesis                           | W 3  | appointed                         |

W 1: Lecturer; W 2: Associate professor; W 3: Full professor

### Major problems encountered by the Faculty

The following important critical points stated during the E.A.E.V.E.-evaluation in 1998 could be solved:

- Increasing the capacity of lecture room (new building)
- Improving and modernizing the library of the faculty (new building)
- Modernizing the traditional structure of the faculty (founding of Centres, University Veterinary Hospital).

Besides that a teaching evaluation system was introduced, the professorships were completed, and there was a significant progress in modernizing and reconstruction of the old buildings (to overcome the situation before the political turn in 1990). The teaching conditions at the Oberholz farm are far better now too (new stables).

Problems to be solved:

- The Faculty needs more transparency and safety concerning the planning of personnel and financial resources for the next future. This includes more influence of the Faculty on decisions concerning all matters of buildings and investments of equipment too.
- Modern teaching needs more personnel capacity for the management of some new processes (module examinations, introduction of e-learning methods, extended evaluation of teaching and extramural practical work, organising the rotation during the clinical-practical year etc.), but the Faculty cannot expect help by the university.

- The intention to improve and extend the teaching in clinical disciplines (clinical-practical year) can be realized by a more intensive using the Oberholz farm for teaching and research. Therefore there is an urgent need to improve the infrastructural conditions at the farm (rooms for teaching, demonstration, working places for students etc.).
- The Faculty needs a modern experimental facility for larger animals (cattle, pigs, sheep etc.).
- A larger part of the income of the clinics and the paraclinical institutes should be centralized in order to increase the flexibility of the Faculty in all questions of general significance (teaching, service, research etc.).
- The Faculty should intensify the efforts to extend the participation in international research networks.

## Chapter 1

### OBJECTIVES

#### 1.1 FACTUAL INFORMATION

The teaching objectives are laid down in the German Federal Law “Tierärztliche Approbationsverordnung (TAppV)”. According to this regulation, the main objectives are as follows:

The Faculty has to ensure high-quality and research-based training in veterinary medicine that follows modern trends of development and needs of society and meets the national and European requirements for the profession. The objectives of training in veterinary medicine are:

- to qualify veterinarians for companion animals, being able to meet all matters of veterinary medicine based on the principles of Good Veterinary Practice
- to qualify veterinarians for the tasks in Veterinary Public Health
- to provide students with an appropriate “day-one competence” in order to make them capable to meet immediately needs of the profession
- to enable veterinary student to life-long learning

In order to ensure these provisions, the Faculty’s education programme

- is based on scientific background combined with training of basic skills
- integrates new teaching methods such as e-learning
- makes efforts to concentrate on interdisciplinary education, which enables the students to combine different disciplines.

In order to achieve these objectives, the TAppV sets the contents of veterinary education as laid down in detail in Annex 1 of TAppV. In the Federal Republic of Germany, the listed subjects and the hours given for the subjects are mandatory to all institutions of veterinary education.

In order to follow the aims of the TAppV, the objectives are specified in detail in the “Concept of development of the Veterinary Faculty” and in the “Teaching Rules” (*Studienordnung*) of the Veterinary Faculty.

The “Concept of development of the Veterinary Faculty” is prepared by the Committee for Structural Development and approved after discussion by the Faculty Council. It summarizes the general objectives of the Faculty in all important fields (e. g. number and denominations of professorships, structure, profiles in teaching and research, veterinary service, buildings etc.). The concept is currently updated.

The Teaching Rules of the Veterinary Faculty are proposed by the Dean of Study Affairs and the Committee for Study Affairs. They have to be approved by the Faculty Council, the Academic Senate of the University and the Saxon Ministry of Science and the Arts.

## 1.2 Comments

In our view, the Faculty meets the demands given in the “Tierärztliche Approbationsverordnung”. Altogether, the Faculty successfully adapted the curriculum to the new requirements of the TAppV. The Faculty played among the German Veterinary Faculties a very active role in the process of preparing the new “Tierärztliche Approbationsverordnung” (into force since 2007). Two professors of the Leipzig Faculty are acting as the leader of working groups dealing with new teaching demands in the fields of clinical disciplines and food hygiene.

During the last two years, an intensive discussion among the teaching staff resulted in a very demanding and extensive reform plan of the studies at the Leipzig Faculty. Thus, a significant further progress in teaching can be expected. The first results confirm these expectations. To realize the goals of the study reform is one of the most important and permanent objectives of the Faculty for the next years.

The Faculty has to submit an annual report to the Rector's Office for assessing the achievement of the objectives in teaching and research.

The main strengths and weaknesses of the Faculty are outlined in the chapter “Introduction”.

## 1.3 Suggestions

In 2009, a new Saxon Law on the Universities will come into force. The intention is to give the Universities more autonomy. To date, it is not possible to forecast the consequences for the Faculties precisely. According to preliminary information, the Faculties are concerned of a higher load of administration without increasing its staff. We hope for more flexibility concerning the financing of all processes in the Faculty.

## Chapter 2

# ORGANISATION

### 2.1 FACTUAL INFORMATION

#### Details of the Faculty

|                      |  |
|----------------------|--|
| Name of the Faculty: | Veterinärmedizinische Fakultät der Universität Leipzig             |
| Address:             | An den Tierkliniken 19, 04103 Leipzig, Germany                     |
| Telephone:           | +49 341 97 38000   |
| Fax:                 | +49 341 97 38099   |
| E-Mail:              | dekanat@vmf.uni-leipzig.de   |
| Website:             | <a href="http://www.vmf.uni-leipzig.de">www.vmf.uni-leipzig.de</a> |

Title and name of head of the Faculty: Prof. Dr. Dr. h. c. Karsten Fehlhaber, Dean

The Faculty is part of the University of Leipzig

|           |  |
|-----------|--|
| Address:  | Ritterstraße 29, 04109 Leipzig, Germany                          |
| Telephone | +49 341 97 30000   |
| Fax       | +49 341 97 30009   |
| E-mail    | <a href="mailto:rektor@uni-leipzig.de">rektor@uni-leipzig.de</a> |

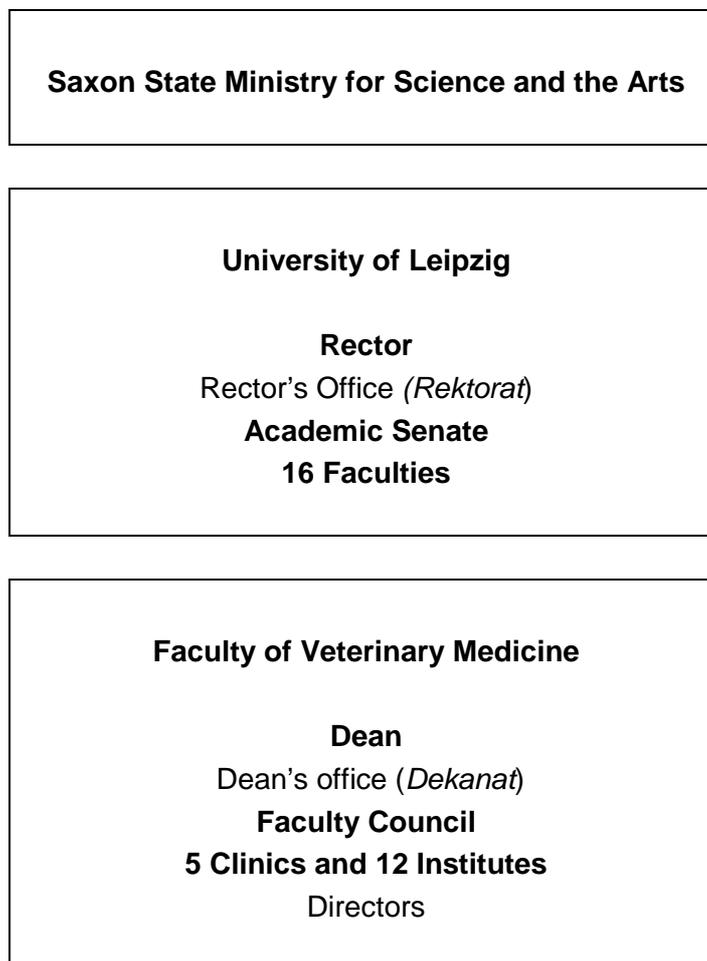
Authority overseeing the Faculty:  
Sächsisches Staatsministerium für Wissenschaft und Kunst

|           |  |
|-----------|--|
| Address:  | Wigard-Straße 17, 01097 Dresden, Germany |
| Telephone | +49 351 564 0                            |
| Fax       | +49 351-5 64 64 06 000                   |

#### Organisation and Legal Background

The principles of organisation, management and education at the universities in the state of Saxony are regulated by the Saxon University Law (*Sächsisches Hochschulgesetz, SächsHG*) as amended on June 11, 1999.

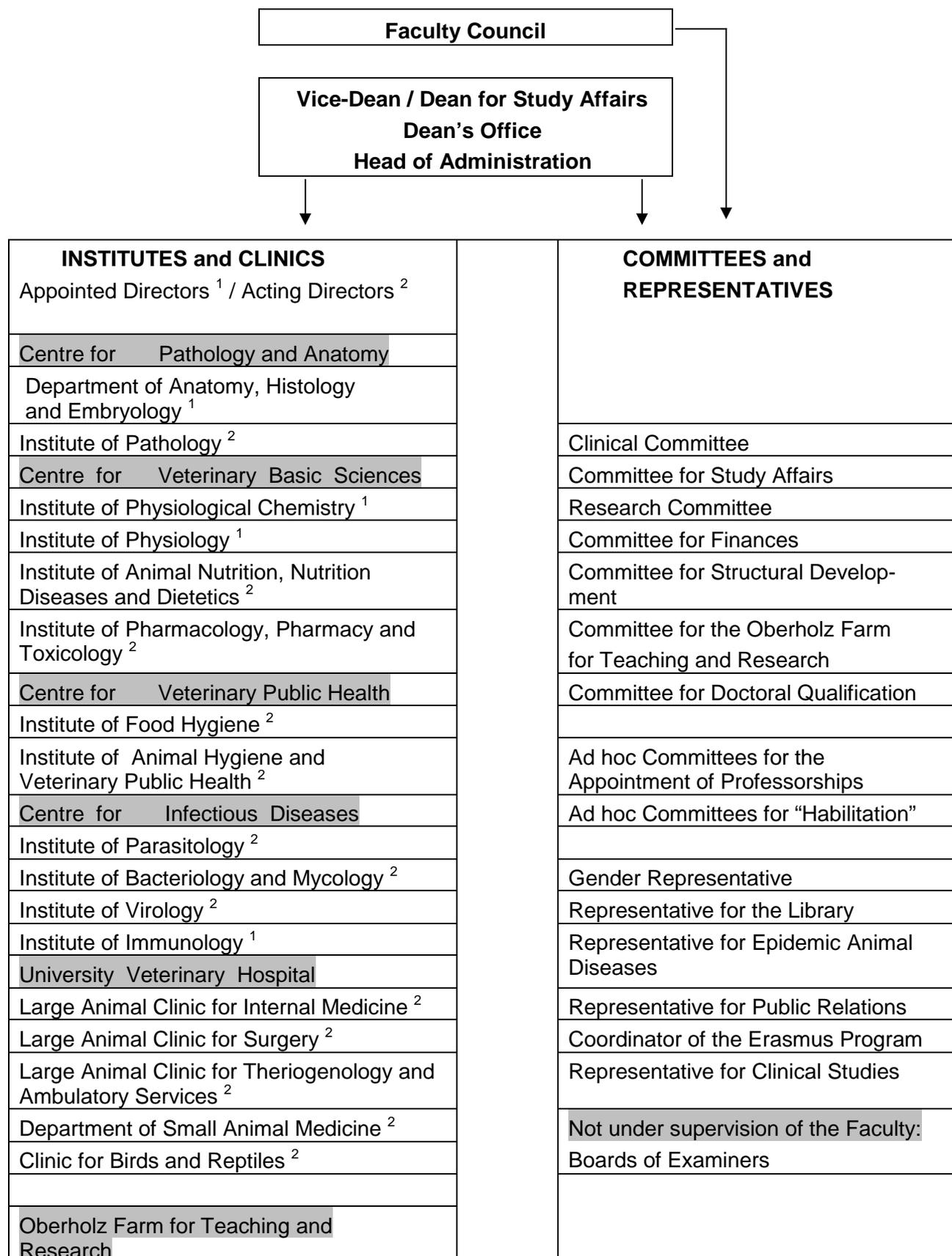
**Diagram of the administrative structures showing the Faculty in relation to the university and ministerial structure**



The University of Leipzig and its faculties are under the supervision of the Saxon State Minister for Science and the Arts (*Sächsisches Staatsministerium für Wissenschaft und Kunst, SMWK*) with regard to all legal matters, finances and appointment of professors.

Concerning the examinations in veterinary medicine, they are state exams and, consequently, supervised by the Saxon State Ministry for Social Affairs (*Sächsisches Staatsministerium für Soziales, SMS*). This Ministry is responsible for veterinary professional matters including veterinary examinations based on federal law (TAppO/TAppV). Students having passed the final examinations at the Faculty of Veterinary Medicine of the University of Leipzig are to be licensed as veterinarians (*Approbation*) by the Saxon State Ministry for Social Affairs. This procedure of veterinary examinations and licensing is in general mandatory for all Faculties of Veterinary Medicine in Germany in their respective states.

### Diagram of the internal administrative structure of the Faculty of Veterinary Medicine



<sup>1</sup>) Elected for 3 years by the professors of the institute    <sup>2</sup>) Appointed by the rector

## Rules concerning the appointment of the elected officials of the Faculty

The Faculty Council (*Fakultätsrat*) consists of 15 members. The Faculty Council is elected every three years by the members of the Faculty on a “group basis”. The distribution of seats is as follows:

- group of professors: 8 seats
- group of non-professorial scientific staff: 3 seats
- group of students: 3 seats
- group of technical/administrative staff: 1 seat

For all members of the council, re-election is possible.

The Faculty Council elects one of the 8 professorial members as Dean. The Dean proposes the Vice-Dean and the Dean for Study affairs for election by the council. The Vice-Dean and the Dean for Study affairs must be professors but not necessarily members of the Faculty Council. If they are not members they have no right to vote. The Dean, Vice-Dean and Dean for Study affairs are elected for a 3-year term. The Dean can be re-elected once.

The members of the committees are appointed by the Faculty Council with exception of the Clinical Committee and the Boards of Examiners.

## Responsibilities, constitution and function of the main administrative bodies

### Faculty Council

The Faculty Council is the decisive body of the Faculty. It is responsible for

- development of the structure of the Faculty
- decisions on the Faculty statutes
- regulations concerning study and performance of education
- coordination of teaching and research
- decisions on postgraduate qualifications (doctoral grade, “*Habilitation*”)
- nominations for appointments of new professors
- installation or suspension of committees
- finances
- proposals for the assignment of the personnel

The chairman of the Clinical Committee and the Gender Representative participate at the council meetings as non-voting consultants. All professors of the Faculty have the right to vote on all matters of the appointment of new professors and of the promotion of post-doctoral scientists to the higher academic degree of Dr. med. vet. habil. (*Habilitation*).

### Dean / Dean’s Office

The Dean chairs the Faculty Council and is the representative of the Faculty. He interacts as an agent to the university bodies, the Rector’s Office, the central university administration and the Academic Senate where he is a permanent member. The Dean’s duties and responsibilities include

- coordination of the Faculty’s affairs
- allocation of the budget
- giving impetus to the strategic direction of the Faculty’s activities in teaching and research

- ensuring the teaching personnel to fulfil its respective teaching obligations
- supervision of the personnel

The Dean, Vice-Dean and Dean for Study Affairs form the Dean's Office which is the executive body of the Faculty. The Dean's Office and the head of administration at the Dean's Office manage the Faculty and prepare the decisions of the Faculty Council. The decision-making processes are performed in a transparent and democratic process by seeking the advice of the respective committees in order to obtain acceptance.

### Committees

The Saxon University Law allows the establishment of certain Faculty Council committees. All committees report to the Faculty Council.

Two mandatory committees exist:

- Committee for Study affairs:  
It consists of 4 professors, 7 students and 3 members of the non-professorial scientific staff and is chaired by the Dean for Study Affairs. This committee is dealing with all matters of study affairs, e.g. procedures for the enrolment of students, evaluation of teaching, syllabus of the veterinary curriculum (Teaching rules, *Studienordnung*), and regulations for practical courses. Decisions taken by this committee can be changed by the Faculty Council with a two-third majority only.
- Clinical Committee  
It is composed of the directors of the 5 clinics and of the 7 para-clinical institutes and deals with all aspects of clinical affairs. The chairman is elected by the members of the committee for a period of three years.

All other Committees are under the chairmanship of the Dean or his nominated representative.

### Board of Examiners

The members of the Boards of Examiners, one for the Preclinical Veterinary Examinations and one for the Veterinary Examination at the Faculty of Veterinary Medicine (*Prüfungsausschuss für die Tierärztliche Vorprüfung und Prüfungsausschuss für die Tierärztliche Prüfung*), are nominated by the Dean for Study Affairs and entitled by the Saxon State Ministry for Social Affairs for a 5-year term. The two Boards are under the supervision of the Saxon State Ministry for Social Affairs (SMS) and not under direct control of the Faculty or university.

The Examination Office (*Prüfungsamt*) organising the exams is associated with the Dean's office but is *de iure* not part of the Faculty and the university. It is under the supervision of the responsible State Ministry (SMS). Running matters such as admittance of the students to the examinations, issuing of certificates, monitoring of correctness and fairness and of compliance of the examinations to the regulations of TAppO/TAppV are delegated to the chairmen of the respective Board of Examiners. The chairmen are elected by the members of the respective board and appointed by the SMS for a 5-year-term.

## **Involvement of the veterinary profession and general public**

In Germany, the veterinary profession is organised in each state by veterinary chambers (*Tierärztekammern*) which are under the roof of German Federal Veterinary Chamber (*Bundestierärztekammer*) located in Bonn. In general matters of veterinary education the professional veterinary associations are involved along with the higher veterinary educational establishments and the Ministries of the States and the Federal Government. The Veterinary Schools are in close contact among each other on a mutual basis and in the board of all German veterinary faculties (*Deutscher Fakultätentag*) where common matters of education and administration are discussed. Professional veterinary associations participate at the board meetings.

The veterinary chambers are not directly involved in running of the undergraduate curriculum in the faculties. Close cooperation exists between the Veterinary Faculty Leipzig and the local State Veterinary Chambers of Saxony, Saxony-Anhalt, Thuringia, Brandenburg and Mecklenburg-Vorpommern to organise and conduct continuing education programmes and postgraduate education for the qualification as veterinary specialist (*Fachtierarzt*). This national board certificate is granted by the State Veterinary Chambers. The Faculty conducts a broad spectrum of training programmes and all institutes and clinics are authorized to postgraduate training for *Fachtierarzt*. The most important cooperation of the Faculty with the State Veterinary Chambers is the Leipzig Veterinarians' Congress with more than 2.000 participants of all fields of veterinary medicine.

Members of The Faculty serve the Veterinary Chambers as examiners in the field of veterinary specialisation as well as advisors in veterinary matters on all levels of political decision.

## **2.2 COMMENTS**

The present structure of the Faculty allows fulfilling the tasks in teaching and research. We hope for more cooperation in connection with the newly established centres and the University Veterinary Hospital in order to meet the future needs. The demands in quality of teaching, research, service and administration will increase during the next years. The Faculty has to manage this by better using all the given resources. After two years the Faculty will access the progress coming from the new structure and decide how to increase the efficiency by further developing the centres.

The Faculty will continue the intention to include the majority of the Faculty member in planning and preparing decisions of the most important processes by using the well established committees.

## Chapter 3

### FINANCES

#### 3.1 FACTUAL INFORMATION

##### 3.1.1 GENERAL INFORMATION

###### **Allocation of funding (including public funding) to the Faculty**

The Saxon State Ministry for Science and the Arts (SMWK) distributes the funds to universities according to the student number within the regular study schedule, the academic staff, and the research activities.

The allocation of funding to the Faculty is determined by the Rector's Office of the University of Leipzig upon a proposal of the central committee for finances. A factor-supported distribution of the funds is used with main factors being

- number of scientific staff (30%)
- amount of teaching (45%)
- scientific success as determined by the amounts of funding through extramural grants acquired by the university (25%).

No specific weighting factor is used for veterinary medicine. The factors are the same as for other disciplines of natural sciences although the costs of the study of veterinary medicine are generally higher in comparison with other courses of studies at the university.

###### **Allocation of funds within the Faculty**

The allocation of the funds for running administrative and teaching costs, for salaries of tutors, and for new equipment to the institutes and clinics is decided by the Faculty Council. A modified factor-supported distribution of the funds is used which resembles the university funding distribution system. Main factors are

- number of scientific staff (50%)
- amount of teaching (30%)
- income from outside sources (grants and income from diagnostic and clinical services) (20%).

The fund for new equipment is distributed on the basis of a priority list proposed by the Research Committee and decided by the Faculty Council.

###### **Mechanisms for funding major equipment and its replacement**

Equipment > 5 T€ and its replacement is funded by the money allocated to the Faculty.

### **Mechanisms for funding capital expenditure**

For building work (new constructions) and major items of equipment (> 125 T€) applications have to be submitted to the university. New buildings need an application of the university to the Saxon State Ministry of Science and the Arts (SMWK) and an agreement of the Saxon State Ministry of Finances to be funded by the state. For funding of equipment > 125 T€ the university has to apply to the SMWK. In case of positive reviewing of the application by the German Research Foundation (*Deutsche Forschungsgemeinschaft*, DFG), 50% is funded by the State of Saxony and 50% by DFG.

### **Mechanisms to provide the necessary support for building maintenance**

Upon application of the Faculty, the university negotiates the funding of the necessary support for building maintenance with the Saxon State Office for the Management of Real Estates and Construction (*Sächsischer Staatsbetrieb für Immobilien- und Baumangement, SIB*).

## **3.1.2 INFORMATION ON EXTRA INCOME**

### **Income given to other bodies**

All revenues for clinical and diagnostic services as well as the research grants are retained by each institute or clinic. The Dean's office receives up to 3% of the income of services for central duties.

With the exception of grants from public sponsors (e.g. DFG, government, EU-Commission), the university presently retains an overhead of 12% of revenues by grants from other sponsors (e.g. pharmaceutical industry). Part of this overhead (5%) is returned to the Faculty to be primarily used for acquisition of new grants.

### **Tuition / registration fees**

The students do not pay tuition fees at the public universities of Saxony. The semester registration fees are retained by the university to cover central administrative costs and are not available to the Faculty.

### 3.1.3 OVERVIEW INCOME (REVENUE) AND EXPENDITURE

**Table 3.1:**

#### Income/Revenue

| Year | State (government)                             |                   | Income generated by the Faculty |          | Total     |
|------|--|-------------------|---------------------------------|----------|-----------|
|      | To university administered outside the Faculty | Direct to Faculty | Income from services provide    | Research |           |
| 2007 | 18.145 T€                                      | 1.638 T€*         | 4.254 T€                        | 1.613 T€ | 25.650 T€ |
| 2006 | 19.540 T€                                      | 1.841 T€*         | 4.216 T€                        | 942 T€   | 26.539 T€ |
| 2005 | 17.723 T€                                      | 1.814 T€*         | 3.839 T€                        | 1.055 T€ | 24.431 T€ |

\* includes 614 T€ for the Oberholz Farm for Research and Teaching

**Table 3.2:**

#### Expenditure

| Year  | Salaries  | Teaching support | Research support | Clinical support | Other <sup>1)</sup> | Total     |
|-------|-----------|------------------|------------------|------------------|---------------------|-----------|
| 2007* | 10.757 T€ | 5.165 T€         | 5.906 T€         | 3.691 T€         | 131 T€              | 25.650 T€ |
| 2006  | 11.192 T€ | 5.333 T€         | 6.095 T€         | 3.810 T€         | 109 T€              | 26.539 T€ |
| 2005  | 10.126 T€ | 4.973 T€         | 5.683 T€         | 3.552 T€         | 97 T€               | 24.431 T€ |

\*year prior to visitation, <sup>1)</sup> Faculty administration

## 3.2 COMMENTS

Owing to shortages of the budget since last evaluation, the allocation to the Faculty for funding administrative and teaching costs decreased to an average of 150 T€ per year to be distributed to the institutes and clinics. For guaranteeing a minimum budget of 7.5 to 9.5 T€ per institute (depending on the number of academic staff) and 15 to 25 T€ per clinic, the Dean's office supplies an additional charge of about 15 T€ per year. As the minimum budgets are inadequate, the institutions have to generate additional income to cover the necessary costs for teaching material and administration.

For maintaining appropriate teaching capacity, the university funding of tutorials (average of 130 T€ per year for free distribution) is increased by the Dean's Office by an amount of about 50 T€ per year.

The funding of new equipment (about 300 T€ per year) only allows to purchase or to replace urgent needed equipment. The maintenance of the old equipment with increasing repair costs cannot be covered by the available university funding.

In addition, the Faculty receives varying amounts of finances for new professorships from the university according to the results of the appointment negotiations. This funding is no matter of free distribution.

Within the budgets available to the institutions, no room is left to support research. Thus, it is compulsory for the institutes to raise grants from outside in order to perform research or even to increase the quality of research.

The small budgets directly allocated to the Faculty for free distribution and the restricted possibilities of transfer of finances between the funds limits the degree of autonomy and flexibility available to the Faculty in financial matters. The future resources of the Dean's Office to supply additional finances are not predictable. An increased deduction from the income of the institutions to be distributed centrally by the Faculty might be a disincentive for services concerned as substantial amount of the revenues is already needed to cover the running costs for teaching, maintenance of equipment, and raising grants from outside.

In the case of any increased funding the first priority of use is for teaching material and resources.

### **3.3 SUGGESTIONS**

The Faculty is concerned by the planning of the Rector's Office of the University of Leipzig to establish a modified distribution system of the funds with a higher weighting factor for the number of student places. In contrast to the Faculties of Fine Arts and Humanities, the Veterinary Faculty as a "*Numerus clausus*" discipline cannot increase the number of students admitted as the factors determining the number of student places are defined by

As mentioned in chapter 1.3, the Faculty is expecting a higher degree of flexibility concerning financing all the duties. We hope that the new Saxonian Law of the Universities will allow the Faculty to use the money according their own decisions and demands.

## Chapter 4

# CURRICULUM

### 4.1 FACTUAL INFORMATION

#### National curriculum

In Germany, the veterinary curriculum is regulated by federal law (*Tierärztliche Approbationsordnung*, TAppO, since 2007 *Tierärztliche Approbationsverordnung*, TAppV) according to Council Directive 2005/36/EC. The curriculum is described in TAppV in detail with respect to the intentions of veterinary education, types of teaching, subjects to be taught, hours per subject, extent of elective teaching and type and volume of extramural training. Moreover, the chronology of examinations, the respective subjects and the knowledge and skills to be proved by students are stipulated in TAppV. In general the national curriculum consists of a preclinical and clinical part. The preclinical studies take place in the first two years with a Preclinical Veterinary Examination of two stages after the 1<sup>st</sup> term and the 2<sup>nd</sup> year. The preclinical training is followed by clinical studies in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year including extramural training and completed by the Veterinary Examination after 5.5 years.

#### Freedom to change curriculum

The allocation of hours to each subject as laid down in TAppV is mandatory with the exception that up to 20 % of teaching volume in subjects may be used for other purposes provided that the total volume of teaching hours is not amended. The goal and consequence of such modifications have to be notified to the responsible authority (state government). The Faculty of Veterinary Medicine in Leipzig has made use of this option to create clinical rotation of 40 hours for 2<sup>nd</sup> year students. These hours are generated from cutbacks in teaching volume in zoology, botany and chemistry.

In comparison to the former rules given by the TAppO, the new legislation of TAppV allows more flexibility in organizing teaching and examination according to the specific options and profiles of the faculties. On this basis it was possible to establish clinical education in the pre-clinical period (see above) and to shorten the period until the first round of examinations in natural sciences (*Vorphysikum*) to one term instead of two. A core change in the local curriculum also depended on the new legislation, namely the allocation of a considerable proportion of teaching hours to problem based cross sectional (multidisciplinary) courses (“modules”) and stimulation of continuous learning by course-related examinations as part of the state exam in the respective subjects. Moreover, TAppV opens the option to establish the “clinical-practical year” including focal education in clinical electives and intense self-directed learning (“project”). These new and innovative approaches are described in detail in the Teaching rules (*Studienordnung*) and Examination rules (*Prüfungsordnung*). The Teaching Rules have been developed, extensively discussed and approved by the respective Faculty commission (*Studienkommission*). The Board of Examiners (*Prüfungsausschuss*) at the faculty is responsible for the development and approval of the Examination Rules. The

Faculty Council discussed and forwarded both regulations to the University Senate for final approval.

### **Decisions on curriculum matters and course content**

Curriculum matters are discussed in the Commission for Study Affairs, which is also responsible for the Teaching Rules as already mentioned and the general teaching schedule. The teaching schedules for the specific terms are developed by the Deans office in consensus with the respective lecturers. The lecturers are responsible for the course content in accordance with the demands stipulated in TAppV. Lecturers participating in problem based modules discuss and adjust the contents of their teaching units within the group of lecturers. The Dean for Study Affairs is responsible for accordance of course contents with TAppV and appropriate organisation of teaching schedules.

### **Decisions on the allocation of hours between the various subjects**

TAppV clearly regulates the hours of teaching allocated to each subject. However, modifications are possible insofar as 20 % of hours may be allocated to other subjects if the curtailed subject is assigned a contingent of at least 28 hrs according to TAppV. Within a certain subject the balance between theoretical and practical teaching is defined by the responsible faculty institution and approved by the Commission for Study Affairs and the Faculty Council. The allocation of hours to lectures, seminars or practical training for each subject is part of the Teaching Rules.

## **4.1.1 POWER OF SUBJECTS AND TYPES OF TRAINING**

### **4.1.1.1 POWER OF SUBJECTS**

As stipulated in TAppV the curriculum at the Veterinary Faculty in Leipzig consists of

- "core" subjects taken by every student;
- "electives" including tracks which each student must select from a list of permissible subjects;
- obligatory extramural work.

### **4.1.1.2 TYPES OF TRAINING**

The types of training at the Faculty match in general the definitions of EAEVE types of training methods.

#### 4.1.1.2.1 Theoretical training

- **Lectures** convey theoretical knowledge. Lectures (or presentations) are given to an entire or partial annual intake of students. Teaching may be with or without the use of teaching aids or of demonstration animals or specimens. The essential characteristic is that there is no active involvement of the students in the material discussed. They listen and do not handle.
- **Seminars** (sometimes called tutorials or supervised group work) are teaching sessions directed towards a smaller group of students during which they work on their own, or as a team, on part of the theory, prepared from manuscript notes, photocopied documents, articles and bibliographic references. Information is illustrated and knowledge extended by the presentation of audio-visual material, exercises, discussions and, if possible, case work.
- **Self directed learning** are sessions of individual students making use of defined teaching material provided by the Faculty (e.g. e-learning)

#### 4.1.1.2.2 Supervised practical training

- **Laboratory and desk based work.** Includes teaching sessions where students themselves actively perform laboratory experiments, use microscopes for the examination of histological or pathological specimens etc.
- **Non-clinical animal work.** These are teaching sessions where students make tests on themselves or work on healthy animals, on objects, products, carcasses etc. (e.g. animal husbandry, ante mortem and post mortem inspection, food hygiene, etc.) and perform dissection or necropsy.
- **Clinical work.** These are strictly hands-on procedures by students which include work on normal animals in a clinical environment, on organs and clinical subjects including individual patients and herds, making use of the relevant diagnostic data. Surgery or propaedeutical hands-on work on organ systems on cadavers to practice clinical techniques are also classified as clinical work.

### 4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS

Subjects and topics of the veterinary curriculum are regulated in Germany by federal law (*Tierärztliche Approbationsverordnung, TAppV*) and are thus identical for each of the five faculties in Germany. However, they differ partly regarding allocation and nomenclature from the Council Directive (2005/36/EC) and the EAEVE indicators. To avoid confusion due to the different denominations we decided to follow the same principles as implemented in the SER (September 2007) of the sister Faculty in Berlin. The following Table (4.1) gives an overview on the subjects as stipulated by EU and EAEVE and the respective denomination as laid down in TAppV and implemented in the local curriculum.

Tab. 4.1:

**Veterinary curriculum – Legal elements (EU, EAEVE indicators and national legislation) and local implementation**

| <b>Council directive</b><br>(2005/36/EC)     | <b>EAEVE Indicator</b>                       | <b>TAppV</b><br>(national legislation)                      | <b>Local Curriculum</b>                                     |
|--|--|---|---|
| <b>A. BASIC SUBJECTS</b>                     |  |   |   |
| Anatomy (including Histology and Embryology) | Anatomy (including Histology and Embryology) | 1) Anatomy<br>2) Histology and Embryology                   | 1)Anatomy<br>2)Histology and Embryology                     |
| Biochemistry                                 | Biochemistry and Molecular Biology           | Biochemistry  | Biochemistry  |
| Animal Biology                               | Biology (incl. Cellular Biology)             | Zoology   | Zoology (incl. Biology of infectious organisms)             |
| Plant Biology                                | Biology (incl. Cellular Biology)             | Botany of forage crops, pharmaceutical and poisonous plants | Botany of forage crops, pharmaceutical and poisonous plants |
| Physics                                      | Biophysics                                   | Physics incl. basics of physical radiation protection       | Physics incl. basics of physical radiation protection       |
| Biomathematics                               | Biostatistics                                | Biometrics  | Biometrics  |
| Chemistry                                    | Chemistry                                    | Chemistry   | Chemistry   |
| Epidemiology                                 | Epidemiology                                 | Epizootics control and epidemiology of infectious diseases  | Epizootics control and epidemiology of infectious diseases  |
| Genetics                                     | Genetics                                     | Animal breeding and Genetics incl. Assessment of animals    | Animal breeding and Genetics incl. Assessment of animals    |
| Immunology                                   | Immunology                                   | Immunology  | Immunology  |
| Microbiology                                 | Microbiology                                 | 1) Virology<br>2) Bacteriology and Mycology                 | 1) Virology<br>2) Bacteriology and Mycology                 |
| Parasitology                                 | Parasitology                                 | Parasitology  | Parasitology  |

| <b>Council directive</b><br>(2005/36/EC)  | <b>EAEVE</b><br><b>Indicator</b>  | <b>TAppV</b><br>(national legislation)   | <b>Local Curriculum</b>  |
|---|---|--|--|
| Pathology incl.<br>Pathological anatomy   | 1) Pathological anatomy<br>(macroscopic and microscopic)<br>2)<br>Physiopathology | Pathology and<br>Pathological anatomy and<br>histology incl.<br>autopsy  | Pathology  |
| Pharmacy                                  | Pharmacy  | Manufacture and<br>prescription of<br>medicines  | Manufacture and<br>prescription of<br>medicines  |
| Pharmacology                              | Pharmacology  | Pharmacology and<br>Toxicology   | Pharmacology and<br>Toxicology   |
| Toxicology                                | Toxicology incl.<br>Environmental<br>pollution                                    | Pharmacology and<br>Toxicology   | Pharmacology and<br>Toxicology   |
| Physiology                                | Physiology  | Physiology   | Physiology   |
|   | Scientific and<br>technical<br>information and<br>documentation<br>methods        | Biometrics   | Biometrics   |
| <b>B. ANIMAL PRODUCTION</b>               |   |  |  |
| Agronomy                                  | Agronomy  | Agronomy   | Agronomy   |
|   | Animal behaviour<br>incl. Behavioural<br>disorders                                | Animal protection,<br>welfare and ethology   | 1) Animal<br>protection and<br>welfare<br>2) Ethology  |
| Animal husbandry and<br>Animal production | Animal<br>husbandry incl.<br>livestock<br>production<br>systems                   | 1) Animal<br>husbandry and<br>Animal hygiene<br>2) Animal breeding<br>and Genetics<br>incl. Assessment<br>of animals | 1) Animal<br>husbandry and<br>Animal hygiene<br>2) Animal breeding<br>and Genetics<br>incl. Assessment<br>of animals |
| Animal nutrition                          | Animal nutrition<br>and feeding   | Animal nutrition   | 1) Feed science<br>2) Animal nutrition   |
| Animal ethology and<br>protection         | Animal protection<br>and welfare  | 1) Animal<br>protection,<br>welfare and<br>ethology<br>2) Laboratory<br>animals                                      | 1) Animal<br>protection and<br>welfare<br>2) Laboratory<br>animals   |
| Veterinary hygiene                        | Environmental<br>protection   | Animal husbandry<br>and Animal hygiene   | Animal husbandry<br>and Animal<br>hygiene  |

| <b>Council directive</b><br>(2005/36/EC)                              | <b>EAEVE</b><br><b>Indicator</b>                                     | <b>TAppV</b><br>(national legislation)   | <b>Local Curriculum</b>  |
|---|--|--|--|
| Preventive medicine   | Preventive veterinary medicine incl. health monitoring programmes    | Epizootics control and epidemiology of infectious diseases   | Epizootics control and epidemiology of infectious diseases   |
| Reproduction and Reproductive disorders                               | Reproduction incl. artificial breeding methods                       | Reproductive medicine  | Reproductive medicine  |
| Rural economics   | Rural economics  | Agronomy   | Agronomy   |
| <b>C. CLINICAL SUBJECTS</b>   |  |  |  |
| Clinical lectures on the various domestic animals, poultry and others |  | 1)Internal medicine<br>2)Surgery and Anaesthetics<br>3) Reproductive medicine<br>4) Poultry diseases<br>5) Diseases of Reptiles, Amphibians, Fish and Bees   | 1)Internal medicine<br>2)Surgery and Anaesthetics<br>3) Reproductive medicine<br>4 )Poultry diseases<br>5) Diseases of Reptiles, Amphibians, Fish and Bees<br>6) Small animal diseases |
| Propaedeutics   | Clinical examination and diagnosis and laboratory diagnostic methods | Clinical propaedeutics   | 1) Propaedeutics<br>2) Laboratory Diagnostics  |
| Radiology   | Diagnostic imaging   | Radiology  | Radiology  |
| Clinical medicine and Surgery incl. Anaesthetics                      | 1)Clinical medicine<br>2)Anaesthetics<br>3)Surgery                   | 1)Internal medicine<br>2)Surgery and Anaesthetics<br>3)Poultry diseases<br>4)Diseases of Reptiles, Amphibians, Fish and Bees<br>5) Extramural practical work | 1) Clinical rotations<br>2) Surgery course<br>3) Extramural practical work   |
| Obstetrics  | Obstetrics   | Reproductive medicine  | Reproductive medicine  |

| <b>Council directive</b><br>(2005/36/EC)  | <b>EAEVE Indicator</b>   | <b>TAppV</b><br>(national legislation)   | <b>Local Curriculum</b>  |
|---|--|--|--|
| Reproduction and reproductive disorders   | Reproductive disorders   | Reproductive medicine  | Reproductive medicine  |
| Veterinary state medicine and Public health   | State veterinary medicine, Zoonoses, Public health and Forensic medicine                                     | 1) Epizootics control and epidemiology of infectious diseases<br>2) Forensic veterinary medicine and Veterinary professional legislation | 1) Epizootics control and epidemiology of infectious diseases<br>2) Forensic veterinary medicine and Veterinary professional legislation |
| Therapeutics  | Therapeutics   | 1) Internal medicine<br>2) Surgery and anaesthetics<br>3) Pharmacology and Toxicology  | 1) Internal medicine<br>2) Surgery and anaesthetics<br>3) Pharmacology and Toxicology  |
| <b>D. FOOD HYGIENE</b>  |  |  |  |
| Food hygiene and technology   | 1) Certification of food production units<br>2) Food certification<br>3) Food science and technology         | 1) Food sciences and Food Hygiene<br>2) Meat hygiene<br>3) Dairy sciences  | 1) Food sciences and Food Hygiene<br>2) Meat hygiene<br>3) Dairy sciences  |
| Inspection and control of animal foodstuffs or foodstuffs of animal origin                              | 1) Food hygiene and Food quality incl. legislation<br>2) Food inspection, particularly food of animal origin | 1) Food sciences and Food Hygiene<br>2) Meat hygiene<br>3) Dairy sciences<br>4) Extramural practical work                                | 1) Food sciences and Food Hygiene<br>2) Meat hygiene<br>3) Dairy sciences<br>4) Extramural practical work                                |
| Practical work incl. practical work in places where slaughtering and processing of foodstuff take place |  |  | Extramural practical work  |
| <b>E. PROFESSIONAL KNOWLEDGE</b>  |  |  |  |
| Professional ethics   | Professional ethics  | 1) Forensic veterinary medicine  | 1) Forensic veterinary medicine,   |

| <b>Council directive</b><br>(2005/36/EC) | <b>EAEVE</b><br><b>Indicator</b>  | <b>TAppV</b><br>(national legislation)   | <b>Local Curriculum</b>  |
|--|---|--|--|
|  |   | 2) Veterinary professional legislation<br>3) Medical terminology, History of Veterinary Medicine and Professional Issues | 2) Veterinary professional legislation<br>3) Medical terminology, History of Veterinary Medicine and Professional Issues |
|  | 1) Veterinary certification and report writing<br>2) Veterinary legislation<br>3) Practice management |  |  |

#### 4.1.2.1 GENERAL COMMENTS TO THE NEW CURRICULUM

Academic teaching of Veterinary Medicine is stipulated in Germany by federal law. Until 2006 the curriculum was regulated in detail in the “*Ordnung zur Approbation von Tierärzten (TAppO)*”. This had the positive effect that teaching was similarly organised at the five German faculties supporting mobility of students. After replacement of the TAppO by the new “*Verordnung zur Approbation von Tierärztinnen und Tierärzten (TAppV)*” in 2006, teaching of Veterinary Medicine in Germany was liberalised to give more decision competence to the faculties regarding organisation of the curriculum. This allows the faculties and schools to optimise teaching in relation to their specific infrastructure, competences and profile.

Based on the liberalised rules, the Faculty of Veterinary Medicine in Leipzig has substantially modified the curriculum to take advantage of the options opened by the new legislation. The new curricular model has been put into action in October 2007 for students of the first term and those entering the fifth term (3<sup>rd</sup> year). The main changes are related to:

- a) completion of teaching and examination of basic subjects (physics, chemistry, zoology, botany) in the first term
- b) interdisciplinary teaching in theme-oriented modules
- c) continuous examination after the 4<sup>th</sup> term
- d) clinical-practical year with focus on:
  - practical training in Faculty
  - extramural training
  - structured elective teaching
  - self directed work

##### ad a) Completion of teaching and examination of basic subjects

Sufficient understanding and knowledge in biology, chemistry and physics is essential for students to successfully participate in the subsequent lectures and courses of the veterinary curriculum. The expectation that high school graduation fulfils these requirements is unrealistic in many cases. However, the time spent on this basic education should be as short as possible and thus the Faculty decided to concentrate teaching in botany, zoology, chemistry and physics in the first term. Concomitantly the teaching hours in botany and zoology were reduced by 20 % each (14 hrs) and in chemistry by 9.5 % (12 hrs). The resulting 40 hrs are used to establish a practical clinical training course for students of the third and fourth term. This is thought to give students an understanding of clinical issues even before the onset of the clinical part of the curriculum and to strengthen motivation.

##### ad b) Interdisciplinary teaching in theme-oriented modules

Selected topics are taught in so-called “modules” by lecturers of different disciplines. To date five modules belong to the pre-clinical part of education (terms 2 and 3) and 21 modules to the clinical part (terms 5-8; Table 4.2). Lack of interdisciplinary teaching and little adjustment of topics between disciplines have been attributed as deficits by students and alumni (Evaluation Report “*Leipziger Modell zur*

*Qualitätssicherung in Lehre und Studium, 2006-2007*). We expect this to be resolved by the new modular teaching model. As can be seen in Table 4.3 a substantial proportion of ex-cathedra teaching is now arranged in interdisciplinary modules (1081 hrs of 2229 hrs = 48 %). To support modular teaching the electronic learning platform "moodle" has been established in 2007. Documents and information related to the specific modules or of a more general character are now easily and rapidly accessible to the students. Although students extensively make use of the electronically provided material awareness of the positive options of "moodle" will have to be further improved in the teaching staff. It is planned to develop the learning platform in terms of "blended learning" and to improve e-learning skills of lecturers.

It became obvious during the development of the new curriculum that modular teaching is not equally suited for all disciplines due to didactic and/or organisational matters. Modules do not include practical training and courses because it has been found impossible or inappropriate to structure such activities according to problem-based topics. The new model is and will be continuously and critically evaluated by the Faculty steering group "*Neue Lehre Curriculum*" and will be further developed based on the experiences made.

Table 4.2: Comprehensive overview of modules implemented since October 2007

| Title   | Term | Hours       | Participating facilities                     |
|---|------|-------------|--|
| Cell  | 2    | 19          | 1, 2, 3, 4                                   |
| Blood and immunity                                | 3    | 17          | 1, 2, 3, 12, 14                              |
| Embryology  | 3    | 21          | 1, 3, 16                                     |
| Gut and intestines                                | 3    | 24          | 1, 2, 3, 13                                  |
| Liver   | 3    | 14          | 1, 2, 3, 10, 12, 14                          |
| Clinical basics                                   | 5    | 144         | 2, 5, 8, 10, 13, 15, 17                      |
| Digestion   | 5    | 95          | 3, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17 |
| Locomotor system                                  | 5    | 59          | 1, 3, 4, 5, 9, 12, 13, 15, 16, 17            |
| Diagnosis of infections                           | 5    | 19          | 4, 5, 6, 7, 12                               |
| Reproductive system                               | 6    | 80          | 10, 12, 13, 16, 17                           |
| Notifiable infections                             | 6    | 20          | 13, 14, 17                                   |
| Zoonoses/Food infections                          | 6    | 26          | 5, 6, 7, 11                                  |
| Respiratory system                                | 6    | 49          | 2, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17    |
| Cardiology  | 6    | 23          | 2, 7, 10, 12, 13, 14, 16                     |
| Infections of mucosal tissues                     | 6    | 19          | 4, 5, 6, 7                                   |
| Herd management                                   | 7    | 123         | 5, 6, 7, 8, 9, 10, 11, 14, 16                |
| Behaviour, keeping and feeding of horses and pets | 7    | 33          | 8, 9, 17                                     |
| Neurology   | 7    | 55          | 1, 4, 5, 6, 10, 12, 13, 14, 15, 16, 17       |
| Urinary system                                    | 7    | 25          | 2, 9, 10, 12, 13, 14, 15, 16, 17             |
| Legislation in Food hygiene                       | 7    | 27          | 8, 9, 10, 11                                 |
| Residues and contaminants in food                 | 7    | 32          | 8, 9, 10, 11                                 |
| Poultry diseases                                  | 8    | 50          | 4, 5, 6, 7, 8, 10, 11, 17                    |
| Endocrinology                                     | 8    | 20          | 3, 10, 12, 13, 14, 17                        |
| Blood diseases                                    | 8    | 24          | 2, 4, 5, 7, 10, 12, 13, 14, 16, 17           |
| Skin diseases                                     | 8    | 35          | 1, 3, 4, 5, 6, 7, 9, 12, 13, 14, 15, 17      |
| Fish diseases/Fish as Food                        | 8    | 28          | 7, 8, 11, 17                                 |
| <b>Total</b>                                      |      | <b>1081</b> |  |

Participating institutions are denoted by numbers as follows:

**1:** Department of Anatomy, Histology and Embryology; **2:** Institute of Physiology; **3:** Institute of Physiological Chemistry; **4:** Institute of Immunology; **5:** Institute of Bacteriology and Mycology; **6:** Institute of Virology; **7:** Institute of Parasitology; **8:** Institute of Animal Hygiene and Veterinary Public Health; **9:** Institute of Animal Nutrition, Nutrition Diseases and Dietetics; **10:** Institute of Pharmacology, Pharmacy and Toxicology; **11:** Institute of Food Hygiene; **12:** Institute of Pathology; **13:** Department of Small Animal Medicine; **14:** Large Animal Clinic for Internal Medicine; **15:** Large Animal Clinic for Surgery; **16:** Large Animal Clinic for Theriogenology and Ambulatory Services; **17:** Clinic for Birds and Reptiles

ad c) Continuous examination after the 4<sup>th</sup> term

Multiple choice examinations follow within 1 week after a module has been completed (except for “Diagnosis of infections” and “Infections of Mucosal tissues” and the preclinical modules). The results of these examinations are cumulated separately across each discipline and are incorporated in proportion to the extent of modular teaching into the calculation of the final grade for the respective discipline. Non modular teaching units and practical skills are examined according to the specific subjects (oral, written and, where appropriate, practical) as “block exams”. This approach is believed to have two major advantages:

- 1) Students have the opportunity to collect scores over a longer period of time. Unfavourable results in a modular examination will not directly lead to a complete fail but may be compensated by better results in following modules.
- 2) Continuous learning will be fostered and will be embedded into a multidisciplinary teaching environment. This will encourage problem-based learning.

## ad d) Clinical-practical year

The final two terms (9 and 10 = clinical practical year) will be arranged in a way to supply intensive practical training in the clinics of the Faculty (370 hrs) and extramural training (up to 950 hrs; parts may be optionally completed after the 7<sup>th</sup> or 8<sup>th</sup> term).

In addition to this, emphasis will be on structured elective teaching. For this purpose elective teaching units spread over terms 5, 6, 7, 8 and 9 in the former curriculum have been shifted to the “clinical-practical year” (224 hrs). Teaching units will be recruited from this pool to organise elective teaching summarized in tracks (e.g. large animals, pet animals, public health, and clinical science) to allow a certain degree of specialization.

In addition, each student will have to work on a selected topic (group work or individual work) after being prepared by an obligatory course “Introduction to academic research and writing”. The results will be presented as a poster or talk and discussed. This self-directed work will be supervised by a tutor and will support development of scientific skills and further specialisation in a field of particular interest.

#### 4.1.2.2 Curriculum hours

In tables 4.3 to 4.5 the teaching hours are listed with respect to their allocation to lectures, supervised work (seminars), practical work (courses) or clinical work (“hands on”). Although subjects are defined according to the local curriculum as depicted in column four of table 4.1, considerable parts of the local curriculum are now organised as interdisciplinary theme-oriented teaching units (see table 4.2). These interdisciplinary “modules” are supported by the electronic teaching platform “moodle” to assist self-directed learning. Examinations within a week after completion of the respective module have been introduced to stimulate continuous learning. Thus a considerable proportion of teaching hours formerly allocated to classical lectures has been re-arranged in a way to allow more focussed education improving options for self-directed preparation and wrap-up by students. This training method, in our view, does comply neither with the definition “lectures” nor with that of “supervised work” according to the EAEVE SOPs. We therefore decided to replace the category “other” by “modules” to clearly demonstrate the extent of changes implemented at our Faculty since 2007 in tables 4.3 to 4.5. According to TAppV 252 hrs of teaching are assigned to “cross sectional teaching” (interdisciplinary courses) and hence were largely allocated to modular teaching.

#### Core subjects

**Table 4.3:**  
**General table of curriculum hours taken by all students**

| Year         | Hours of training    |                  |                               |                                       |                                 |                      |                | Total       |
|--------------|----------------------|------------------|-------------------------------|---------------------------------------|---------------------------------|----------------------|----------------|-------------|
|              | Theoretical training |                  | Self-directed learning<br>(C) | Supervised practical training         |                                 |                      | modules<br>(G) |             |
|              | Lectures<br>(A)      | Seminars<br>(B)  |                               | Laboratory and desk based work<br>(D) | Non-clinical animal work<br>(E) | Clinical work<br>(F) |                |             |
| First        | 464                  | 52               |                               | 102                                   |                                 |                      | 19             | <b>637</b>  |
| Second       | 258                  | 79               |                               | 221                                   | 70*                             | 40                   | 76             | <b>744</b>  |
| Third        | 189                  |                  |                               | 52                                    |                                 | 275*                 | 534            | <b>1050</b> |
| Fourth       | 190                  | 78               |                               | 124                                   | 75 <sup>§</sup>                 | 159                  | 452            | <b>1078</b> |
| Fifth        | 14                   | 126 <sup>#</sup> | 98 <sup>#</sup>               | 28                                    | 175 <sup>§</sup>                | 1070*                |                | <b>1511</b> |
| Sixth        |                      |                  |                               |                                       |                                 |                      |                |             |
| <b>Total</b> | <b>1115</b>          | <b>335</b>       | <b>98</b>                     | <b>527</b>                            | <b>320</b>                      | <b>1544</b>          | <b>1081</b>    | <b>5020</b> |

\* including extramural training; # including electives (“tracks”); § extramural training in Veterinary Public Health

**Table 4.4.1:**  
**Yearly curriculum studies: Year 1 of the course**

| Subject<br>(local curriculum)   | Hours of training |                   |                    |                  |           | TOTAL      |
|---|-------------------|-------------------|--------------------|------------------|-----------|------------|
|   | lectures          | practical<br>work | supervised<br>work | clinical<br>work | modules   |            |
| <b>Physics</b>  | 44                | 12                | 0                  | 0                | 0         | <b>56</b>  |
| <b>Chemistry</b>  | 62                | 36                | 16                 | 0                | 0         | <b>114</b> |
| <b>Zoology</b>  | 56                | 0                 | 0                  | 0                | 0         | <b>56</b>  |
| <b>Botany</b>   | 56                | 0                 | 0                  | 0                | 0         | <b>56</b>  |
| <b>Medical Terminology,<br/>History of Veterinary<br/>Medicine, Professional<br/>Issues</b> | 42                | 0                 | 0                  | 0                | 0         | <b>42</b>  |
| <b>Anatomy</b>  | 83                | 28                | 0                  | 0                | 0         | <b>111</b> |
| <b>Histology and<br/>Embryology</b>   | 8                 | 14                | 0                  | 0                | 6         | <b>28</b>  |
| <b>Agronomy</b>   | 28                | 0                 | 0                  | 0                |           | <b>28</b>  |
| <b>Physiology</b>   | 10                | 12                | 0                  | 0                | 4         | <b>26</b>  |
| <b>Biochemistry</b>   | 21                | 0                 | 8                  | 0                | 7         | <b>36</b>  |
| <b>Animal breeding and<br/>Genetics</b>   | 26                | 0                 | 0                  | 0                | 2         | <b>28</b>  |
| <b>Ethology</b>   | 28                | 0                 | 0                  | 0                |           | <b>28</b>  |
| <b>Electives</b>  | 0                 | 0                 | 28                 | 0                |           | <b>28</b>  |
| <b>TOTAL</b>  | <b>464</b>        | <b>102</b>        | <b>52</b>          | <b>0</b>         | <b>19</b> | <b>637</b> |

**Table 4.4.2:**  
**Yearly curriculum studies: Year 2 of the course**

| Subject<br>(local curriculum)                         | Hours of training |                   |                    |                  |           | TOTAL      |
|---|-------------------|-------------------|--------------------|------------------|-----------|------------|
|   | lectures          | practical<br>work | supervised<br>work | clinical<br>work | modules*  |            |
| <b>Anatomy</b>  | 28                | 84                | 0                  | 0                | 1         | <b>113</b> |
| <b>Histology and Embryology</b>                       | 18                | 28                | 0                  | 0                | 24        | <b>70</b>  |
| <b>Physiology</b>                                     | 39                | 56                | 0                  | 0                | 19        | <b>114</b> |
| <b>Biochemistry</b>                                   | 44                | 32                | 16                 | 0                | 12        | <b>104</b> |
| <b>Propaedeutics</b>                                  | 32                | 0                 | 0                  | 0                | 0         | <b>32</b>  |
| <b>Animal Breeding and Genetics</b>                   | 56                | 0                 | 0                  | 0                | 0         | <b>56</b>  |
| <b>Animal protection and welfare</b>                  | 14                | 0                 | 0                  | 0                | 0         | <b>14</b>  |
| <b>Feed science</b>                                   | 14                | 21                | 7                  | 0                | 0         | <b>42</b>  |
| <b>Pharmacology and Toxicology</b>                    | 13                | 0                 | 0                  | 0                | 1         | <b>14</b>  |
| <b>Immunology</b>                                     | 0                 |                   |                    | 0                | 7         | <b>7</b>   |
| <b>Pathology</b>                                      | 0                 | 0                 | 0                  | 0                | 2         | <b>2</b>   |
| <b>Small Animal Diseases</b>                          | 0                 | 0                 | 0                  | 0                | 4         | <b>4</b>   |
| <b>Internal Medicine incl. Laboratory Diagnostics</b> | 0                 | 0                 | 0                  | 0                | 2         | <b>2</b>   |
| <b>Reproductive medicine</b>                          | 0                 | 0                 | 0                  |                  | 4         | <b>4</b>   |
| <b>Clinical rotation</b>                              | 0                 | 0                 | 0                  | 40               | 0         | <b>40</b>  |
| <b>Electives</b>                                      | 0                 | 0                 | 56                 | 0                | 0         | <b>56</b>  |
| <b>TOTAL</b>  | <b>258</b>        | <b>221</b>        | <b>79</b>          | <b>40</b>        | <b>76</b> | <b>675</b> |

\* 16 hrs covered by “cross sectional teaching”

**Table 4.4.3:**  
**Yearly curriculum studies: Year 3 of the course**

| Subject<br>(local curriculum)                          | Hours of training |                   |                    |                  |            | TOTAL      |
|--|-------------------|-------------------|--------------------|------------------|------------|------------|
|  | lectures          | practical<br>work | supervised<br>work | clinical<br>work | modules*   |            |
| <b>Animal Husbandry and Animal Hygiene</b>             | 0                 | 0                 | 0                  | 0                | 5          | <b>5</b>   |
| <b>Radiology</b>                                       | 0                 | 0                 | 0                  | 0                | 42         | <b>42</b>  |
| <b>Propaedeutics</b>                                   | 0                 | 0                 | 0                  | 66               | 0          | <b>66</b>  |
| <b>Animal Protection and Welfare</b>                   | 14                | 0                 | 0                  | 0                | 0          | <b>14</b>  |
| <b>Animal Nutrition</b>                                | 0                 | 0                 | 0                  | 0                | 5          | <b>5</b>   |
| <b>Laboratory Animals</b>                              | 14                | 0                 | 0                  | 0                | 0          | <b>14</b>  |
| <b>Poultry Diseases</b>                                | 0                 | 0                 | 0                  | 0                | 20         | <b>20</b>  |
| <b>Pharmacology and Toxicology</b>                     | 8                 | 0                 | 0                  | 0                | 53         | <b>61</b>  |
| <b>Bacteriology and Mycology</b>                       | 16                | 16                | 0                  | 0                | 29         | <b>61</b>  |
| <b>Virology</b>  | 45                | 0                 | 0                  | 0                | 15         | <b>60</b>  |
| <b>Parasitology</b>                                    | 21                | 22                | 0                  | 0                | 22         | <b>65</b>  |
| <b>Immunology</b>                                      | 28                | 0                 | 0                  | 0                | 14         | <b>42</b>  |
| <b>Diseases of Reptiles, Amphibians, Fish and Bees</b> | 0                 | 0                 | 0                  | 0                | 8          | <b>8</b>   |
| <b>Pathology</b>                                       | 42                | 0                 | 0                  | 0                | 27         | <b>69</b>  |
| <b>Internal Medicine incl. Laboratory Diagnostics</b>  | 0                 | 14                | 0                  | 0                | 44         | <b>58</b>  |
| <b>Surgery and Anaesthetics</b>                        | 0                 | 0                 | 0                  | 0                | 77         | <b>77</b>  |
| <b>Reproductive Medicine</b>                           | 0                 | 0                 | 0                  | 0                | 77         | <b>77</b>  |
| <b>Small Animal Diseases</b>                           | 0                 | 0                 | 0                  | 0                | 78         | <b>78</b>  |
| <b>Food Sciences and Food Hygiene</b>                  | 0                 | 0                 | 0                  | 0                | 12         | <b>12</b>  |
| <b>Biochemistry</b>                                    | 0                 | 0                 | 0                  | 0                | 2          | <b>2</b>   |
| <b>Physiology</b>                                      | 0                 | 0                 | 0                  | 0                | 3          | <b>3</b>   |
| <b>Histology</b>                                       | 0                 | 0                 | 0                  | 0                | 1          | <b>1</b>   |
| <b>Clinical Training</b>                               | 0                 | 0                 | 0                  | 45               | 0          | <b>45</b>  |
| <b>Surgery Course</b>                                  | 0                 | 0                 | 0                  | 14               | 0          | <b>14</b>  |
| <b>Electives</b>                                       | 0                 | 0                 | 0                  | 0                | 0          | <b>0</b>   |
| <b>TOTAL</b>   | <b>189</b>        | <b>52</b>         | <b>0</b>           | <b>125</b>       | <b>534</b> | <b>900</b> |

\* 57 hrs covered by "cross sectional teaching"

**Table 4.4.4:**  
**Yearly curriculum studies: Year 4 of the course**

| Subject<br>(local curriculum)  | Hours of training |                   |                    |                  |            |             |
|--|-------------------|-------------------|--------------------|------------------|------------|-------------|
|  | lectures          | practical<br>work | supervised<br>work | clinical<br>work | modules*   | TOTAL       |
| Biochemistry   | 0                 | 0                 | 0                  | 0                | 4          | 4           |
| Physiology   | 0                 | 0                 | 0                  | 0                | 2          | 2           |
| Histology and Embryology   | 0                 | 0                 | 0                  | 0                | 3          | 3           |
| Animal Husbandry and<br>Animal Hygiene                                     | 0                 | 14                | 0                  | 0                | 46         | 60          |
| Animal Protection and<br>Welfare   | 0                 | 0                 | 0                  | 0                | 28         | 28          |
| Animal Nutrition   | 0                 | 20                | 0                  | 0                | 38         | 58          |
| Forensic Veterinary<br>Medicine and Veterinary<br>Professional Legislation | 28                | 0                 | 0                  | 0                | 0          | 28          |
| Pharmacology and<br>Toxicology   | 0                 | 0                 | 0                  | 0                | 40         | 40          |
| Manufacture and Prescription<br>of Medicines                               | 28                | 0                 | 0                  | 0                | 0          | 28          |
| Bacteriology and Mycology  | 0                 | 0                 | 0                  | 0                | 12         | 12          |
| Virology   | 0                 | 0                 | 0                  | 0                | 5          | 5           |
| Parasitology   | 0                 | 0                 | 0                  | 0                | 11         | 11          |
| Immunology   | 0                 | 0                 | 0                  | 0                | 7          | 7           |
| Epizootics Control and<br>Epidemiology of Infectious<br>Diseases           | 26                | 0                 | 13                 | 0                | 0          | 39          |
| Pathology  | 0                 | 0                 | 65                 | 70               | 16         | 151         |
| Internal Medicine and<br>Laboratory Diagnostics                            | 0                 | 0                 | 0                  | 0                | 62         | 62          |
| Surgery and Anaesthetics   | 0                 | 0                 | 0                  | 0                | 12         | 12          |
| Reproductive Medicine  | 2                 | 0                 | 0                  | 0                | 35         | 37          |
| Poultry Diseases and<br>Diseases of Reptiles,<br>Amphibians, Fish and Bees | 10                | 6                 | 0                  | 0                | 26         | 42          |
| Small Animal Diseases  | 0                 | 0                 | 0                  | 0                | 44         | 44          |
| Food Sciences and<br>Food Hygiene  | 97                | 84                | 0                  | 0                | 59         | 240         |
| Clinical Training  | 0                 | 0                 | 0                  | 89               | 0          | 89          |
| Electives  | 0                 | 0                 | 0                  | 0                | 0          | 0           |
| <b>TOTAL</b>   | <b>191</b>        | <b>124</b>        | <b>78</b>          | <b>159</b>       | <b>450</b> | <b>1002</b> |

\* 123 hrs covered by "cross sectional teaching"

Table 4.4.5: Yearly curriculum studies: Year 5 of the course

| Subject<br>(local curriculum)                            | Hours of training |                   |                    |                  |          |            |
|--|-------------------|-------------------|--------------------|------------------|----------|------------|
|  | lectures          | practical<br>work | supervised<br>work | clinical<br>work | modules  | TOTAL      |
| <b>Biometrics</b>  | 14                | 14                | 0                  | 0                | 0        | <b>28</b>  |
| <b>Manufacture and<br/>Prescription of<br/>Medicines</b> | 0                 | 14                | 0                  | 0                | 0        | <b>14</b>  |
| <b>Clinical rotation</b>                                 | 0                 | 0                 | 0                  | 356              | 0        | <b>356</b> |
| <b>Surgery Course</b>                                    | 0                 | 0                 | 0                  | 14               | 0        | <b>14</b>  |
| <b>Electives*</b>  | 0                 | 0                 | 224                |                  | 0        | <b>224</b> |
| <b>TOTAL</b>   | <b>14</b>         | <b>28</b>         | <b>224</b>         | <b>370</b>       | <b>0</b> | <b>636</b> |

\*The following five tracks of elective subjects each of 42 hours will be offered:

- 1) Domestic livestock
- 2) Horses
- 3) Pet animals
- 4) Clinical science
- 5) Veterinary public health

See also description of the planned "Clinical-practical year" which will be implemented in 2009.

**Table 4.5:**  
**Curriculum hours in EU-listed subjects taken by every student**

| Subject<br>(local curriculum)   | Hours in course |                   |                    |                  |          | TOTAL      |
|---|-----------------|-------------------|--------------------|------------------|----------|------------|
|   | lectures        | practical<br>work | supervised<br>work | clinical<br>work | modules* |            |
| <b>Anatomy (including<br/>Histology and<br/>Embryology)</b>               | 137             | 154               | 0                  | 0                | 35       | <b>326</b> |
| <b>Biochemistry</b>   | 65              | 32                | 24                 | 0                | 25       | <b>146</b> |
| <b>Zoology (incl. Biology of<br/>infectious organism)</b>                 | 56              | 0                 | 0                  | 0                | 56       | <b>56</b>  |
| <b>Botany of forage crops,<br/>pharmaceutical an<br/>poisonous plants</b> | 56              | 0                 | 0                  | 0                | 0        | <b>56</b>  |
| <b>Physics incl. basics of<br/>physical radiation<br/>protection</b>      | 44              | 12                | 0                  | 0                | 0        | <b>56</b>  |
| <b>Biometrics</b>   | 14              | 14                | 0                  | 0                | 0        | <b>28</b>  |
| <b>Chemistry</b>  | 62              | 36                | 16                 | 0                | 0        | <b>114</b> |
| <b>Epizootics control and<br/>epidemiology of<br/>infectious diseases</b> | 26              | 0                 | 13                 | 0                | 0        | <b>39</b>  |
| <b>Animal Breeding and<br/>Genetics incl.<br/>Assessment of animals</b>   | 82              | 0                 | 0                  | 0                | 2        | <b>84</b>  |
| <b>Immunology</b>   | 28              | 0                 | 0                  | 0                | 27       | <b>55</b>  |
| <b>1)Virology<br/>2)Bacteriology and<br/>Mycology</b>                     | 61              | 16                | 0                  | 0                | 61       | <b>138</b> |
| <b>Parasitology</b>   | 22              | 22                | 0                  | 0                | 32       | <b>76</b>  |
| <b>Pathology</b>  | 42              | 70                | 65                 | 0                | 44       | <b>221</b> |
| <b>Manufacture and<br/>Prescription of<br/>medicines (AVO)</b>            | 28              | 14                | 0                  | 0                | 0        | <b>42</b>  |
| <b>Pharmacology and<br/>Toxicology</b>                                    | 31              | 0                 | 0                  | 0                | 84       | <b>115</b> |
| <b>Physiology</b>   | 49              | 68                | 0                  | 0                | 28       | <b>145</b> |
| <b>Agronomy</b>   | 28              | 70                | 0                  | 0                | 0        | <b>98</b>  |
| <b>Animal Protection and<br/>Welfare</b>                                  | 28              | 0                 | 0                  | 0                | 28       | <b>56</b>  |
| <b>Ethology</b>   | 28              | 0                 | 0                  | 0                | 0        | <b>28</b>  |
| <b>Animal husbandry and<br/>Animal hygiene</b>                            | 0               | 14                | 0                  | 0                | 51       | <b>65</b>  |
| <b>1) Feed science<br/>2) Animal nutrition</b>                            | 14              | 48                | 0                  | 0                | 42       | <b>104</b> |
| <b>Laboratory animals</b>   | 14              | 0                 | 0                  | 0                | 0        | <b>14</b>  |
| <b>Reproductive medicine</b>  | 0               | 0                 | 0                  | 0                | 119      | <b>119</b> |

| Subject<br>(local curriculum)   | Hours in course   |                   |                    |                  |          | TOTAL      |
|---|---|-------------------|--------------------|------------------|----------|------------|
|   | lectures  | practical<br>work | supervised<br>work | clinical<br>work | modules* |            |
| <b>Internal medicine</b>  |   |                   | 0                  | 0                | 107      | <b>107</b> |
| a) Large animals  |   |                   |                    |                  | 63       | <b>63</b>  |
| b) Small animals  |   |                   |                    |                  | 61       | <b>77</b>  |
| c) Reptiles, amphibians,<br>fish, bees, birds,<br>poultry                           | 10  | 6                 |                    |                  |          |            |
| <b>Surgery and<br/>Anaesthetics</b>   |   |                   |                    |                  | 88       | <b>88</b>  |
| a) Large animals  |   |                   |                    |                  | 63       | <b>63</b>  |
| b) Small animals  |   |                   |                    |                  |          |            |
| <b>Propaedeutics</b>  | 32  |                   |                    | 66               |          | <b>98</b>  |
| <b>Laboratory diagnostics</b>   |   | 14                |                    |                  |          | <b>14</b>  |
| <b>Radiology</b>  | 0   | 0                 | 0                  | 0                | 42       | <b>42</b>  |
| <b>Clinical training and<br/>rotations</b>  | 0   | 0                 | 0                  | 530              | 0        | <b>530</b> |
| <b>Surgery course</b>   |   |                   |                    | 28               |          | <b>28</b>  |
| <b>Extramural practical<br/>work</b>  |   |                   |                    | 850              |          | <b>850</b> |
| <b>Forensic veterinary<br/>medicine and Veterinary<br/>professional legislation</b> | 28  |                   |                    |                  |          | <b>28</b>  |
| <b>Food science and Food<br/>hygiene</b>  |   |                   |                    |                  |          |            |
| a) Food science   | 20  | 44                |                    |                  | 52       | <b>116</b> |
| b) Dairy science  | 34  | 13                |                    |                  | 8        | <b>55</b>  |
| c) Meat hygiene   | 36  | 27                |                    |                  | 18       | <b>81</b>  |
| d) Extramural work  |   | 250               |                    |                  |          | <b>250</b> |
| <b>Medical terminology</b>  | 14  |                   |                    |                  |          |            |
| <b>History of veterinary<br/>medicine</b>   | 14  |                   |                    |                  |          |            |
| <b>Professional issues</b>  | 14  |                   |                    |                  |          |            |
|   |   |                   |                    |                  |          | <b>42</b>  |
| <b>Professional ethics</b>  | Included in Animal protection and welfare and all clinical disciplines  |                   |                    |                  |          |            |
| <b>Practice management</b>  | Extramural clinical training, included in Veterinary Professional Legislation, supplemented by various facultative lectures |                   |                    |                  |          |            |

\*) including hours allocated according to TAppV to cross-sectional teaching,  
plus 308 hrs of electives

## Elective subjects

According to TAppO (active until October 2007) and TAppV, 308 hrs of teaching are organised as elective courses. The students have to select at least 84 hrs of elective subjects within the first two study years and 224 hrs in the clinical part of veterinary education (study years 3, 4 and 5). According to the newly established curriculum, electives are implemented in year 2 for the preclinical part of the curriculum and in the clinical-practical year (year 5) for the clinical part. The latter are still to be developed in detail and are thus not listed below. They will be available to the students starting the 5<sup>th</sup> year by October 2009. It is already clear that five elective tracks of 42 hrs each will be established for the following main topics

- 1) Domestic livestock
- 2) Horses
- 3) Pet animals
- 4) Clinical science
- 5) Veterinary public health

Students will have to choose three out of the five elective tracks, corresponding to 126 hrs of training. The remaining 98 hrs will be allocated to self-directed working on a specific topic ("project"; see also explanations in chapter 4.1.2.1). Table 4.6 shows the electives available for students in winter term 2007/2008 and thus reflects a mixed situation with students of study years 1 and 3 educated according to the new curriculum (no electives because these are now taught in years 2 and 5) and those of years 2, 4 and 5 who are still educated according to the old curriculum.

Hours of elective courses to be taken by each student:

Students have to sign up for at least 84 hrs in the first 2 years and 224 hrs in years 3, 4 and 5 (new curriculum: year 5 only). Selection by students is not related to certain subject groups.

**Table 4.6:**  
**Elective courses (years 2, 4 and 5)**

Hours for electives that are dispersed according to the old curriculum over the clinical part (years 3, 4, 5) will be completely used to design the elective track system for year 5 of the new curriculum. These tracks include 98 hrs of self-directed learning ("project").

Since students of year 3 (2007-2008) are already educated according to the new system no electives are listed for this year. The table only lists the elective courses offered in 2007-2008. The new clinical elective track system (224 hrs) is still under construction to be implemented in October 2009 and is thus not considered in this table.

| Year                                     | Subject   | Theoretical training |                        | Supervised practical training  |                 |               |
|--|---|----------------------|------------------------|--------------------------------|-----------------|---------------|
|  |   | Seminars             | Self directed learning | Laboratory and desk based work | Supervised work | Clinical work |
|  |   | hours of training    |                        |                                |                 |               |
| <b>Basic subjects and basic sciences</b> |   |                      |                        |                                |                 |               |
| 2  |   |                      |                        |                                |                 |               |
|  | Multimedia in Biochemistry                                |                      |                        |                                | 7               |               |
|  | Basics of Immunology                                      | 14                   |                        |                                |                 |               |
|  | Sampling and examination of cattle udder peripheral lymph |                      |                        | 7                              |                 |               |
|  | Anatomical basics of acupuncture and neurotherapy         | 14                   |                        |                                |                 |               |
|  | Physiological peculiarities of birds                      |                      |                        |                                | 7               |               |
|  | Feed analysis   |                      |                        |                                | 14              |               |
|  | Microbial ecosystems                                      | 7                    |                        |                                |                 |               |
|  | Presentation of interesting patients                      |                      |                        |                                |                 | 14            |
|  | Physiological peculiarities of marine mammals             |                      |                        | 14                             |                 |               |
|  | Molecular genetic methods                                 |                      |                        | 42                             |                 |               |
|  | Pathophysiology of certain organ systems                  | 14                   |                        |                                |                 |               |
|  | Pathophysiology of muscle diseases                        |                      |                        |                                | 14              |               |
|  | Early phase and peculiarities of mammalian placentation   |                      |                        |                                | 28              |               |
|  | Comparative REM and histological documentation            |                      |                        | 28                             |                 |               |
|  | Functional neuro-anatomy of the visual system             |                      |                        |                                | 7               |               |
|  | Clinical propaedeutics                                    | 28                   |                        |                                | 7               |               |
|  | Modern histological staining techniques                   |                      |                        | 28                             |                 |               |
|  | Molecular visualization in medicine                       |                      |                        |                                | 7               |               |
|  | Chemistry of life   |                      |                        |                                | 14              |               |
|  | Blood clotting and clotting disorders                     |                      |                        |                                | 14              |               |

| Year | Subject   | Theoretical training |                        | Supervised practical training  |                 |               |
|------|---|----------------------|------------------------|--------------------------------|-----------------|---------------|
|      |   | Seminars             | Self directed learning | Laboratory and desk based work | Supervised work | Clinical work |
|      |   | hours of training    |                        |                                |                 |               |
| 4    | Physiology and pathology of primates  | 7                    |                        |                                |                 |               |
|      | Important bacterial and fungal infections                                     | 14                   |                        |                                |                 |               |
|      | Virulence factors in microbes   | 7                    |                        |                                |                 |               |
|      | Immunology for advanced learners  |                      |                        |                                | 7               |               |
|      | Innate immunity in antimicrobial defence                                      | 7                    |                        |                                |                 |               |
| 5    | Clostridia  | 7                    |                        |                                |                 |               |
|      | Molecular vaccines  |                      |                        | 7                              |                 |               |
|      | Serologic diagnostics   |                      |                        | 35                             |                 |               |
|      | <b>Clinical Sciences</b>  |                      |                        |                                |                 |               |
| 4    | Disease risk associated to exotic zoonoses                                    | 14                   |                        |                                |                 |               |
|      | Tropical medicine   |                      |                        | 14                             |                 |               |
|      | Clinical pathology of the heart   |                      |                        |                                | 14              |               |
|      | Diagnostic pathology  |                      |                        |                                | 42              |               |
|      | Diagnosis of bacterial infections   | 7                    |                        |                                |                 |               |
|      | Diagnostic imaging  | 14                   |                        |                                |                 |               |
|      | Anaesthetics, reanimation and intensive care                                  | 14                   |                        |                                |                 |               |
|      | Oncologic cases   | 7                    |                        |                                |                 |               |
|      | Diseases of old world camelids  |                      |                        |                                | 7               |               |
|      | Rectal examination and examination of the gut                                 |                      |                        |                                |                 | 7             |
|      | Practice of handling, examination and sample collection in birds and reptiles |                      |                        |                                |                 | 28            |
|      | Intensive care for horses   |                      |                        |                                | 7               |               |
|      | Transmissible diseases of swine in Europe                                     |                      |                        |                                | 28              |               |
|      | Diseases of zoo and game animals  | 14                   |                        |                                |                 |               |
|      | Minimal invasive surgery in horses  |                      |                        |                                | 7               |               |
| 5    | Selected topics in pharmacotherapy  | 14                   |                        |                                |                 |               |
|      | Clinical Pathology  |                      |                        |                                | 21              |               |

| Year | Subject   | Theoretical training |                        | Supervised practical training  |                 |               |
|------|---|----------------------|------------------------|--------------------------------|-----------------|---------------|
|      |   | Seminars             | Self directed learning | Laboratory and desk based work | Supervised work | Clinical work |
|      |   | hours of training    |                        |                                |                 |               |
|      | Large animal surgery in gynaecology and andrology                                   |                      |                        |                                | 14              |               |
|      | Basics in arthroscopy   |                      |                        |                                | 7               |               |
|      | Osteoarthritis in dogs  |                      |                        |                                | 7               |               |
|      | Basics in interpretation of ECG of dogs and cats                                    |                      |                        |                                | 14              |               |
|      | Clinical neurology  |                      |                        |                                |                 | 28            |
|      | Ultrasonographic examination of cows  |                      |                        |                                |                 | 7             |
|      | Castration of piglets   |                      |                        |                                |                 | 7             |
|      | Imaging techniques for horses   |                      |                        |                                | 7               |               |
|      | Acupuncture   |                      |                        |                                | 7               |               |
|      | <b>Animal production</b>  |                      |                        |                                |                 |               |
| 4    |   |                      |                        |                                |                 |               |
|      | Pre- and probiotics   | 7                    |                        |                                |                 |               |
|      | Excursion to a dairy farm   |                      |                        |                                | 7               |               |
|      | Farm management and practice of handling, examination and sample collection in fish |                      |                        |                                |                 | 7             |
|      | Basics of epidemiology  | 14                   |                        |                                |                 |               |
|      | Cruel breeds of birds and pets  | 7                    |                        |                                |                 |               |
|      | Supplements for feeding of carnivores, swine and ruminants                          |                      |                        | 21                             |                 |               |
|      | Feeding of zoo animals  |                      |                        |                                | 7               |               |
|      | Calculation of feed ratios  |                      |                        |                                | 7               |               |
| 5    |   |                      |                        |                                |                 |               |
|      | Swine herd management   |                      |                        |                                |                 | 7             |
|      | <b>Food hygiene/Public health</b>   |                      |                        |                                |                 |               |
| 5    |   |                      |                        |                                |                 |               |
|      | Food safety and pest control in the EU  | 7                    |                        |                                |                 |               |
|      | Zoonoses  | 14                   |                        |                                |                 |               |
|      | Environmental toxicology and natural toxins   | 14                   |                        |                                |                 |               |
|      | Current problems in the implementation of the new food hygiene legislation          | 14                   |                        |                                |                 |               |
|      | Exotic animal pests   | 14                   |                        |                                |                 |               |
|      | Molecular diagnosis of bacteria in food   |                      |                        | 14                             |                 |               |
|      | Milking by hand and machines  |                      |                        |                                |                 | 7             |
|      | Chemical examination of food  |                      |                        | 7                              |                 |               |

|      |  | Theoretical training |                        | Supervised practical training  |                 |               |
|------|--|----------------------|------------------------|--------------------------------|-----------------|---------------|
|      |  | Seminars             | Self directed learning | Laboratory and desk based work | Supervised work | Clinical work |
| Year | Subject  | hours of training    |                        |                                |                 |               |
|      | Hygiene of food originating from game and exotic animals |                      |                        |                                | 7               |               |
|      | <b>Professional knowledge</b>                            |                      |                        |                                |                 |               |
| 5    | Application of personal computers in veterinary medicine |                      |                        |                                | 14              |               |

#### 4.1.3 FURTHER INFORMATION ON THE CURRICULUM

##### Innovative aspects of the teaching programme

Besides the modular teaching, another important aspect of the new curriculum at the Veterinary Faculty in Leipzig is the organisation of the 9<sup>th</sup> and 10<sup>th</sup> term (year 5) as “**clinical-practical year**” (see Chapter 4.1.2.1).

During this period the students will be allocated to two groups (A, B). Group A (approx. 70 students) will leave the Faculty for extramural training during the 9<sup>th</sup> term while the students of group B (about 70 students) will be divided into subgroups B1 and B2 (about 35 students each).

B1 students will enter clinical rotation at the Faculty while B2 students will have to decide for 3 of 5 elective subjects taught as supervised work over 7 weeks. The following five elective subjects will be offered as interdisciplinary units of 42 hours each:

- 1) Domestic livestock
- 2) Horses
- 3) Pet animals
- 4) Clinical science
- 5) Veterinary public health

It is mandatory that one of the three selected elective subjects is either subject 4 or subject 5. Group size will not exceed 30 students and be probably much lower, depending on the distribution of students over the subjects, and thus supervised work will be possible.

The remaining 96 hrs of electives will be allocated to a project which has to be accomplished by each student as self directed work. The first 14 hrs of the project will begin with training in basic scientific skills (database handling, literature search, presentation techniques, scientific writing, graphics and biostatistics etc.). Then students will have to study a topic of particular interest selected by the student from a list of topics provided by the Faculty. These topics may include practical work (e.g. laboratory diagnostics, participation in experimental or other scientific projects of the institutes) or be mainly theoretical (e.g. literature review, database screening). The project may be conducted in small groups of students or represent individual

work. In any case, success of work will be documented by a manuscript, poster or oral presentation. Project work will be accompanied by teaching staff (tutors) who will certify successful completion.

In the second half of the 9<sup>th</sup> term group B2 will enter clinical rotation while group B1 will attend elective teaching. In the 10<sup>th</sup> term group B (B1, B2) will leave the Faculty for extramural training and group A will be divided into A1 and A2 and educated as explained for B1 and B2.

### **Parts of the programme that must be attended**

The attendance at all curriculum hours listed in the Table 4.5 and at the minimum hours of electives is obligatory. With the only exception of lectures, the attendance of students at all other types of courses (incl. elective courses) is individually controlled.

### **Specific information on the practical clinical training**

#### *Description of the obligatory clinical rotations*

- The clinical rotations are a structured part of training given to all undergraduate students in the 2<sup>nd</sup> year and 5<sup>th</sup> year. The attendance is compulsory.

- Total number of hours:

40 hours in the 2<sup>nd</sup> year (3<sup>rd</sup> and 4<sup>th</sup> term)

370 hours in the 5<sup>th</sup> year (9<sup>th</sup> or 10<sup>th</sup> term) within 12 weeks and 31 hours per week

- areas covered and time spent in each area during 5<sup>th</sup> year clinical rotation:

Department of small animal medicine                      5 weeks

Clinic for birds and reptiles                                      1 week

Large animal clinic for internal medicine                      2 weeks

Large animal clinic for surgery                                      2 weeks

Large animal clinic for theriogenology and  
Ambulatory Service    2 weeks

- The attendance at the 5<sup>th</sup> year clinical rotation is full-time, including night-shifts and weekends on a rotatory basis and based on case needs

- Activities and case responsibilities that students are expected to undertake:

The students will be integrated in the medical team and receive hands-on training (including large and small animal surgery). They will take part in the routine work of the clinics and rotate through the different sections of the clinics, including emergency service. The students will be responsible for individual patients. Under supervision by a veterinarian they perform the clinical examination, work out the diagnosis and a therapeutic plan.

The aim is to train the students at the occasion of the confrontation with clients to develop a professional attitude with

- skills and knowledge in the area of diagnostics, therapy of small and large animal diseases, and “first aid” clinical care
  - prudent use of drugs
  - acquaintance to practice administration programmes
  - social and communication skills with respect to owners, veterinarians and non-scientific staff members
- The group sizes are 3 students per tutor with
- 5 groups at the Department of small animal medicine,
  - 1 group at the Clinic for birds and reptiles
  - 2 groups at the Large animal clinic for internal medicine
  - 2 groups at the Large animal clinic for surgery
  - 2 groups at the Large animal clinic for theriogenology
  - 1 group at the Mobile clinic
- Clinical exercises in which students are involved prior to the commencement of clinical rotations:
- Prior to the clinical rotation of the 5<sup>th</sup> year the clinical exercises comprise 40 hours of clinical rotation in the 2<sup>nd</sup> year and 144 hours of clinical training in the 3<sup>rd</sup> and 4<sup>th</sup> year (cf. Tables 4.4.2 to 4.4.4) where students learn their basic clinical knowledge and skills.
- Student involvement in the emergency and hospitalisation activities of the clinics:
- In all clinics, positions of support staff are available for students to work on a voluntary basis in the hospitalisation and emergency activities.
- Student participation in the activities of the ambulatory (mobile) clinic:
- Mobile Clinic is a compulsory part of the clinical rotation in the clinical practical year. The students participate in the ambulatory (mobile) services of the Large animal clinic for theriogenology and the Clinic for birds and reptiles. The hours of mobile clinic training are included in Table 4.4.5 and 4.5. The mobile clinic teaching offers insights in the veterinary work in the field as well as herd health management on pig, cattle and poultry farms.

#### **4.1.4 OBLIGATORY EXTRAMURAL WORK**

Extramural work is mandatory for each student and it represents an obligatory part of veterinary training with a fixed amount of hours as stipulated in the respective legislation (TAppV). During extramural work students have the opportunity to apply their theoretical and practical knowledge in practice and to learn and gain experience within various professional environments and improve their practical skills.

**Table 4.7:**  
**Obligatory extramural work that students must undertake as part of their course**

| Nature of work  | Minimum period     | Year of course  |
|---|--------------------|---|
| Agriculture   | 70 hrs (2 weeks)   | after 1 <sup>st</sup> year                              |
| Clinical training (private practice or clinic)                                  | 150 hrs (4 weeks)  | after 2 <sup>nd</sup> year                              |
| Clinical training (private practice or clinic)                                  | 700 hrs (16 weeks) | 5 <sup>th</sup> year<br>(clinical-practical year)       |
| Veterinary inspection offices regarding all aspects of Veterinary Public Health | 75 hrs (2 weeks)   | after 4 <sup>th</sup> year<br>(clinical-practical year) |
| Food hygiene (hygiene control, food monitoring, food examination)               | 75 hrs (2 weeks)   | after 4 <sup>th</sup> year<br>(clinical-practical year) |
| Abattoir, meat inspection (ante and post mortem)                                | 100 hrs (3 weeks)  | after 4 <sup>th</sup> year<br>(clinical-practical year) |

### Guidelines pertaining to extramural work

Students organise time and addresses of their extramural work on their own except for the agricultural extramural training which is organised by the Faculty. For the Veterinary Public Health (VPH) area an address list of institutions that offer internships is available at the Institute of Food Hygiene.

Internships are only acceptable if students are trained under the supervision and guidance of an experienced veterinary professional. Supervisors are informed on the expectations related to extramural training by a letter. The relevant topics of extramural training in the field of VPH are listed on the homepage of the Faculty. A comparable list has been developed to evaluate the quality of clinical extramural training. Questionnaires have been developed and are already applied to allow standardised evaluation of internships by students and supervisors both for extramural clinical or VPH training (see Chapter 5.1.4) .

Evaluation of the clinical internship has been performed in spring 2008 for the first time whereas extramural training in VPH has been evaluated for several years in concert with the other German faculties.

Most students complete **agricultural training** at the Faculty's "*Lehr- und Versuchsgut Oberholz*" (Oberholz Farm for Teaching and Research). Practical work is supervised by members of the Faculty.

**Clinical training** in a practice can only be served under supervision of veterinarians fulfilling certain requirements as laid down in § 58 of TAppV (independent practice for at least 2 years, licensed veterinary pharmacy, no conflicts with professional legislation for at least 2 years). Veterinary clinics offering internships have to be accredited by the responsible

veterinary board. The first clinical internship of 4 weeks duration should give the student insight into veterinary work whereas the second internship of 16 weeks is meant to improve practical skills and clinical knowledge. The second internship can be divided by the student into two periods of 8 weeks each, one of which may optionally be completed at a non-curative institution with a natural-scientific background such as zoos, research institutes, industry laboratories, in the field of VPH etc. The Faculty encourages students to perform their clinical practical training or part of it abroad.

Obligatory internships in **VPH** should improve knowledge on the manifold duties and tasks to be accomplished by veterinary officers (e.g. in the fields of animal welfare, pest control, food safety). At the abattoir students are obliged to participate in the routine work of inspection of animals before and after slaughter. For the food hygiene internship students join a lab performing respective examinations and assessments according to legislation or a local Veterinary Food Inspection Service (*Veterinäramt*).

#### **4.1.5 SPECIFIC INFORMATION ON PRACTICAL TRAINING IN FOOD HYGIENE**

The **slaughterhouse facility** and the meat processing unit, which are directly integrated in the Institute of Food Hygiene, are regularly used in the course of the graduate teaching of students of veterinary medicine in the 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> semester, for Veterinary Examination (11<sup>th</sup> semester), and at certain stipulated times for postgraduate teaching.

The slaughtering facility is used in particular for the demonstration of the slaughtering process of pigs, sheep and cattle as pertaining to technology, hygiene, animal welfare and for the demonstration and practical courses in ante mortem and post mortem meat inspection of pigs, sheep, and cattle. About 78 % of the practical training on meat inspection and hygiene (total: 28 h) is offered in the slaughterhouse facilities. Group size is about 7 to 10 students per tutor/carcass; duration: 2 lecturing hours each. The remaining time is taught in the Institute's course room (such as meat bacteriological examination, see Chapter 6.1.4). As the slaughtering facility is located in the campus of the Faculty, training in meat hygiene can be incorporated in the daily curriculum without time losses for transferring students.

Slaughtering at our meat technological facilities is also performed as a service for the veterinary clinics or other institutions of the University of Leipzig, in particular for research purposes. On these occasions, students are invited (in small groups) in order to demonstrate technology and hygiene of the slaughtering process and to introduce research as performed at the Veterinary Faculty.

In addition to the intramural teaching on meat inspection and hygiene at our own facility, nearby abattoirs (approx. 50 km) for pigs, cattle and poultry, all in a distance of approx. 50 km, are visited (excursions, small groups). Further, ante and post mortem inspection of game animals can be demonstrated at the nearby agricultural facilities of Oberholz Research Farm where a herd of fallow deer is kept in an enclosure of about 15 hectares.

The extramural practical course in meat hygiene and inspection lasts at least 3 weeks (100 h) and must be taken in an EC approved slaughtering plant where pigs and cattle are regularly

slaughtered. Students take this course usually after completion of the 8<sup>th</sup> semester in abattoirs preferably in the vicinity of their hometown, but some of them choose abattoirs in other countries of the European Union.

The **meat product unit** is used for the demonstration of basic meat technology such as carcass splitting, cutting, mixing, filling, canning, smoking, and heating. Technology and hygiene of special meat products such as minced meat, raw sausages, cooked sausages, emulsion type sausages, are demonstrated. The group size is about 40 students.

In addition to the practical sessions in food and milk hygiene in the course rooms (described in Chapter 6.1.4) **the facility for milk technology** (established in July 2007) provides the possibility to support the theoretical knowledge on milk processing. Students of the 8<sup>th</sup> semester and postgraduates at stipulated times get an overview on basic equipment such as chilling and heating (e.g. pasteurising). Manufacturing methods and hygiene of special milk products, such as fermented products (e.g. yoghurt), butter, curd and soft cheese, are demonstrated. Furthermore, sensory and chemical-physical investigations can take place. The group size is about 20 students.

The facilities are also used for the practical part of the Veterinary Examination in the 11<sup>th</sup> semester.

#### 4.1.6 RATIOS

##### 4.1.6.1 GENERAL INDICATORS FOR TYPES OF TRAINING

Ratios are delineated from Table 4.3 only. Table 4.6 is not considered due to the current fundamental changes in elective teaching (see explanations in header of Table 4.6) that are not reflected in this table. However, in Table 4.3 the changes in elective teaching are already considered and thus indicators are adapted to the new teaching system.

|             |  |   |                                      |
|-------------|--|---|--------------------------------------|
| <b>R 6:</b> | Theoretical training<br>(A+B+C)          |   |                                      |
|             | <hr/>                                    | = | $\frac{1548}{2391} = \frac{1}{1.54}$ |
|             | Supervised practical training<br>(D+E+F) |   |                                      |

|               |   |   |                                     |
|---------------|---|---|-------------------------------------|
| <b>R 7.1:</b> | Clinical Work<br>(F)  |   |                                     |
|               | <hr/>   | = | $\frac{1544}{847} = \frac{1}{0.55}$ |
|               | Laboratory and desk based work<br>+ non-clinical animal work (D +E) |   |                                     |

The problem- and disease-based modules are an integral and important part of clinical education. We therefore propose the respective indicator to be modified as follows:

**R 7.2:** Clinical Work  
(F+G)

$$\frac{\text{Clinical Work (F+G)}}{\text{Teaching load (A+B+C+D+E+F+G)}} = \frac{2625}{5020} = \frac{1}{0.32}$$

Laboratory and desk based work  
+ non-clinical animal work (D +E)

Self directed learning  
(C)

$$\frac{\text{Self directed learning (C)}}{\text{Teaching load (A+B+C+D+E+F+G)}} = \frac{98}{5020} = \frac{1}{51.2}$$

The denominations of the numerators are defined as follows:

|   |                                |
|---|--------------------------------|
| A | Lectures                       |
| B | Seminars                       |
| C | Self directed learning         |
| D | Laboratory and desk based work |
| E | Non-clinical animal work       |
| F | Clinical work                  |
| G | Modules                        |

#### 4.1.6.2 SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

**R 9:** Total no. hours vet. curriculum

$$\frac{\text{Total no. hours vet. curriculum}}{\text{Total no. curriculum hours Food Hygiene/Public Health (incl. 68 hrs cross sectional teaching)}} = \frac{5020}{570} = \frac{1}{0.11}$$

**R 10:** Total no. curriculum hours  
Food Hygiene/Public Health  
(incl. 68 hrs cross sectional teaching)

$$\frac{\text{Total no. curriculum hours Food Hygiene/Public Health (incl. 68 hrs cross sectional teaching)}}{\text{Hours obligatory extramural work in Veterinary inspection}} = \frac{570}{250} = \frac{1}{0.44}$$

## 4.2 COMMENTS

Graduates shall acquire scientific and practical knowledge enabling them to work as a veterinarian in an independent and responsible manner and to further improve their knowledge and skills by continuous (life long) learning. This includes veterinary, scientific, multi disciplinary and methodological knowledge, practical skills, ethical and mental basics and a professional attitude towards safeguarding welfare of man, animals and environment. They shall be able to work in any field of the veterinary profession with emphasis on quality assurance. These principles are stipulated in TAppV (previously TAppO) which is the legal and binding fundament of veterinary education in Germany to assure that the curriculum covers all these basic standards independent of the place of study.

The curriculum is structured according to the frame set by TAppV including the subjects to be taught, the teaching hours allocated to each subject and the basic sequence of teaching and examination. The local curriculum is structured along these requirements and has been accordingly developed by the Commission of Study affairs, the Dean of Study affairs, the Dean's office, the working group "*Neue Lehre*", and, with respect to examination issues, the boards of examiners. The curriculum is reviewed and approved by the Faculty Council, the Senate of the university and the Saxon Ministry for Sciences and the Arts (SMWK).

Major developments in the curriculum are described in chapter 4.1.2.1 (General comments). In short, condensation of education in natural sciences in the first term, introduction of clinical rotation in the second year, multi disciplinary problem based teaching, establishment of a clinical-practical year, self directed project work and specialization in elective training in year 5 are believed to be significant steps forward in our efforts to modernize veterinary education in Leipzig.

The indicators in 4.1.6 describe the ratio between different types of teaching. The allocation of a considerable proportion of ex-cathedra teaching to problem based modules is a major innovation in the curriculum. In fact, these teaching units are still taught as lectures, however, have replaced the column originally designated as "others" in Table 4.3 to reflect and emphasize the degree of change in the new curriculum. It may also be justified to calculate ratio R6 in a way that module hours are incorporated into column A of Table 4.3. However, we felt that this would obscure the innovation that has been achieved by the establishment of modular teaching.

As mentioned in 4.1.6 the teaching hours of elective training in Table 4.6 are not representative for the current curriculum and were thus not considered. However, this has no major impact on indicators because the respective values are included in Table 4.3.

## 4.3 Suggestions

Since the denominators are in the respective range no suggestions for improvement are specified.

## Chapter 5

### TEACHING AND LEARNING: QUALITY AND EVALUATION

#### 5.1 FACTUAL INFORMATION

##### 5.1.1 THE TEACHING PROGRAMME

###### Measures to ensure coordination

Co-ordination of teaching between institutions contributing to the curriculum is one of the main responsibilities of the Dean, the Dean for Study Affairs and of the Dean's Office. The Commission for Study affairs (*Studienkommission*) meets at regular intervals to discuss all aspects of teaching and decides on activities to be implemented. These decisions are mandatory provided that the Faculty Council does not reject the Commission's decision with a two-third majority.

The basic framework of the curriculum is regulated by federal law (TAppV) whereas the local conditions of teaching are stipulated in the "*Studienordnung*" (Teaching Rules) which precisely allocates subjects and the respective teaching volume to certain terms. Allocation of subjects to lecturers is according to the denomination of the respective professor position. The Dean for Study Affairs provides a reasonable teaching schedule, including allocation of lecture halls, course rooms etc., for each term which is compulsory to all involved teaching staff. Schedules and information relevant to teaching are communicated to the persons concerned (email distribution, electronic platform "moodle", conventional notice board); schedules and other general information are also accessible on the homepage of the Faculty. Internal organisation of the specific lectures, courses etc. is the responsibility of the denominated teaching staff and additional information, if necessary, is given to staff and/or students by vocal announcement and/or notice board and/or electronic media, as applicable.

The Dean for Study Affairs is supported by the *ad hoc* working group "*Neue Lehre*" (New Teaching) to ensure proper performance of the new curriculum, identification and resolving of problems and further development of teaching strategies. With the implementation of problem based teaching members of the academic staff of the faculty are appointed as coordinators for each module. The coordinators are in close contact with the respective lecturers and are responsible for adjustment of contents and sequence of teaching units within their module as well as organisation and performance of the pertinent MC examination. Students of informatics are employed in the Dean's Office to support the coordinators and the Dean for Study Affairs with the technological skills and knowledge needed to organise the electronic platform appropriately for optimal conduction of the modules and to ensure adequate information flow within the modules. A new software device has been developed within the Faculty and will be implemented in 2009 to improve organisation of individual teaching schedules and to avoid overlap of involvement of lecturers or of allocation of facilities to teaching units performed simultaneously.

## **Pedagogical approach**

It is the philosophy of the Faculty that theoretical and practical training in basic and applied sciences as well as practical clinical and veterinary public health (VPH) education are equally important for veterinary education. Graduates should be aware of their skills and be prepared for further life-long learning. They have acquired sufficient knowledge and skills in all disciplines taught to be sufficiently qualified to enter any field of the veterinary profession ("day-one-skills"), however, have a realistic view on their professional limitations after they have completed academic veterinary education and proper awareness of the essential need to gain deeper practical knowledge and experience. Our aim is not only to supply graduates with knowledge and skills but also to educate veterinarians who understand and accept their major responsibilities to human and animal welfare and to the public and who, though being self-confident, display a high degree of social competence. The success of this approach has been attested by a scientific study on the qualification of graduates of the five German faculties in the practitioners view where the graduates of the Faculty of Leipzig were ranked best in each of the considered aspects (Hallfritzsch F, Stadler O, Hartmann K (2005): Colleges of veterinary medicine in Germany - assessment of knowledge of recently graduated veterinarians from different colleges by veterinarians in private practice. Tierärztl. Umschau 60, 591-594).

Intensive communication and close contact between students and lecturers is an important prerequisite to achieve this success. Therefore, we believe that lectures, seminars, practical courses and clinical rotation are and should remain the core of veterinary education. E-learning is applied increasingly, however, should not replace but support traditional teaching in the sense of "blended learning". Self directed learning is considered important to increase the ability of the students to collect and properly interpret information and to draw their own conclusions. This may improve learning efficiency and understanding and prepare graduates for professional practice. However, the volume of self directed teaching should be balanced considering the total amount of time available for veterinary education in the many fields to be covered. The option to downgrade the hours allocated to traditional teaching in favour of self-directed learning by specialization of graduates on certain fields is in conflict with German legislation and is, to our belief, not reasonable. Nevertheless, our Faculty has introduced a mandatory project work in the 5<sup>th</sup> year which is completely self-directed.

Students have access to the computer pool of the Faculty. The electronic learning platform "moodle" has been established to improve information flow, to support organisation of teaching, to make the curriculum more transparent to students and lecturers and to make information related to teaching units easier accessible (downloads of presentations, PDF files etc.) and to assist self directed learning.

## **Course notes**

Course notes are available to a different extent for the various subjects, partly distributed by the students, partly offered by the respective institutions as hard copies or download data files. In general the course notes are not meant to replace text books but to support students in concentrating their efforts on the most relevant issues.

## Outside bodies

For subjects to be taught in the curriculum where the Faculty can not provide sufficiently experienced teaching staff lecturers from outside bodies are invited to cover the respective subjects (e.g. Physics, Chemistry, Botany, Animal Breeding, History of Veterinary Medicine, Veterinary professional legislation, Veterinary practice management). In these cases contract are signed to assure proper coverage of teaching. Students visit the farm of the *Sächsische Landesanstalt für Landwirtschaft* (Saxony State Institute for Agronomy) to learn professional assessment of animals (part of subject Animal breeding and genetics). Excursions are organised to Cuxhaven for training in farming of poultry, clinical problems of wildlife birds, vaccination and fish processing (food hygiene). Moreover, students in small groups visit commercial premises where milk, meat and fish products are manufactured. Farms are visited by the Ambulatory Services of the Mobile Clinics.

## General Learning Objectives

Students acquire a profound, in depth theoretical knowledge in all subjects according to the requirements of federal law (TAppV). This is the basis for the subsequent practical education in para-clinical and clinical subjects and VPH. Practical clinical and VPH training can only be partly offered during intramural courses and depends to a substantial part on extramural training. The basic knowledge certified after completion of the Veterinary Examination shall enable the postgraduate to start a professional career in any field of veterinary medicine (day-one-skills).

## Evidence of learning

Students have to prove their current state of knowledge and skills throughout veterinary education. This is obtained by tests during courses, module exams, block exams and final exams (see chapter 5.1.3). Approval of sufficient knowledge and skills is mandatory for a regular continuation of study.

## 5.1.2 The teaching environment

### Development facilities

The university offers courses in didactics and respective seminars are organised by the *Freundeskreis Tiermedizin* on an irregular basis. Postgraduates are involved in teaching activities on different levels of autonomy at the clinics, departments and institutes according to their experience and skills and under supervision and responsibility of a professor.

Courses are organised to train and support lecturers in the development of MC questions for examination.

### Reward of teaching excellence

Identification of teaching excellence is supported by the applied system of online evaluation by the students. The Faculty's *Ackerknecht* price is awarded each year to the lecturer or

team who have provided the best teaching. Selection of the laureate is done by the students and their decision is approved by the Faculty Council.

On occasion of the Leipzig Veterinarians Convention the *Leipziger Innovationspreis* (Price for innovations) is awarded to veterinarians who have made a major contribution to the development of veterinary medicine, including achievements in teaching (see 11.1).

The *Oskar Röder* medal is awarded to persons for merits in favour of the Faculty which may optionally be related to excellence of teaching.

On the university level teaching excellence is awarded the *Theodor Litt* price.

### **Other measures**

With the establishment of the new curriculum continuous efforts are undertaken to improve the learning environment (including electronic tools) and to properly coordinate teaching units with respect to timing and contents. Feedback by the students is considered crucial to identify and erase negative developments in the implementation of the new curriculum. For this purpose online evaluation (particularly of the modules) and discussion with the student body are considered essential and are thus made use of extensively.

VetCampus has been launched as a spin-off by the Department of Small Animal Medicine to develop advanced e-learning tools that will be made available to all students at no costs.

A consortium of all German speaking faculties will be found in due course to coordinate activities in the field of e-learning.

The *Freundeskreis Tiermedizin* is prepared to continuously support the Faculty in its efforts to further improve the teaching environment.

## **5.1.3 THE EXAMINATION SYSTEM**

### **Examination policy**

The examinations are regulated in detail in the TAppO/TAppV. The TAppO is still applicable for students of the current 5<sup>th</sup> year only and will be phased out in 2009. Within the framework of TAppV, the Faculty may define the forms of examinations, the ranks for multiple-choice tests, the timetable for taking the examinations in the various disciplines, the prerequisites for admittance of the students to the examinations and the maximum of time to pass the examination in a discipline after admittance. The Faculty has issued in 2008 an amending regulation on these matters ("Prüfungsordnung für den Studiengang Veterinärmedizin an der Universität Leipzig").

As outlined in Chapter 2.1 the examinations in veterinary medicine are state exams and are performed under the supervision of the Saxon State Ministry for Social Affairs (SMS) and not under direct control of the Faculty. The examinations are executed by the Board of Examiners, one for the Preclinical Veterinary Examination and one for the Veterinary Examination. The

members of these boards are entitled by the SMS. The running matters of examinations are organised by the chairmen of the boards with support of the local Examination Office.

### **Periods for examinations**

By introduction of the new curriculum based on TAppV in the winter term 2007/2008 the Faculty used the higher degree of freedom to change the curriculum and to fundamentally rearrange the time course of the examinations.

The first part of the Preclinical Veterinary Examination (*Vorphysikum*) has now been shifted to the end of the first term. The examinations of the *Vorphysikum* are held after the 1<sup>st</sup> term in February and March during the spring break of teaching and are finished at the beginning of the 2<sup>nd</sup> term.

The second part of the Preclinical Examination (*Physikum*) starts in July after the end of the lectures in the 4<sup>th</sup> semester and is finished within the summer break.

The time course of the Veterinary Examination is shown in Table 5.1. With the introduction of the modular teaching in the clinical part of the curriculum and multiple choice examinations (MC) immediately following each module, continuous learning embedded in a multidisciplinary teaching environment will be fostered. The examinations of non-modular teaching units ("block exams") and final exams are held in general at the beginning of the spring or summer break following the teaching of the subjects. These examinations are scheduled to leave the students time for extramural training during the breaks. Due to the continuous examinations during the 3<sup>rd</sup> and 4<sup>th</sup> year the remaining block exams in the clinical subjects, pathology and food sciences after the 5<sup>th</sup> year are only clinical/practical parts with case reports.

Table 5.1

## Time course of the Veterinary Examination (Year 3, 4 and 5)

| Time  | Subject  | Form of examination                                |
|---|--|--|
| <b>5<sup>th</sup> Semester (from October)</b> |  |  |
| 1 <sup>st</sup> week                          | General pharmacology   | block exam MC                                      |
| November                                      | Module Clinical basics   | module exam MC                                     |
| December                                      | Module Digestive tract   | module exam MC                                     |
| January                                       | Module Locomotor system<br>General Toxicology  | module exam MC<br>block exam MC                    |
| February<br>(after end of<br>lectures)        | Clinical propaedeutics   | final exam MC/practical                            |
|   | Radiology  | final exam MC                                      |
|   | General pathology  | block exam oral                                    |
| End of March                                  | Retakes in Clinical propaedeutics<br>and Radiology   |  |
| <b>6<sup>th</sup> Semester (from April)</b>   |  |  |
| May   | Module Zoonoses/Food infections  | module exam MC                                     |
| June  | Module Reproductive system   | module exam MC                                     |
| July  | Module Respiratory system<br>Module Cardiology   | module exam MC<br>module exam MC                   |
| July<br>(after end of<br>lectures)            | Immunology   | written block exam                                 |
|   | Virology   | final exam oral                                    |
|   | Parasitology   | block exam practical/oral                          |
|   | Bacteriology and Mycology  | block exam practical/oral                          |
|   | Pharmacology   | block exam MC:<br>Antibiotics and Antiparasitics   |
| End of September                              | Retakes in Virology  |  |
| <b>7<sup>th</sup> Semester (from October)</b> |  |  |
| November                                      | Module Herd management   | module exam MC                                     |
| January                                       | Module Behaviour, keeping and<br>feeding of horses and pets<br>Module Neurology<br>Module Urinary tract                | module exam MC<br>module exam MC<br>module exam MC |
| February                                      | Module Legislation in food hygiene<br>and Residues and contaminants in<br>food   | module exam MC                                     |
| February<br>(after end of<br>lectures)        | Animal welfare and ethology  | block exam oral                                    |
|   | Animal nutrition   | block exam practical/MC                            |
|   | Histopathology 1   | block exam practical/MC                            |
|   |  |  |
| <b>8<sup>th</sup> Semester (from April)</b>   |  |  |
| May   | Modules (time to be allocated):<br>Endocrinology, Blood diseases, Skin<br>diseases, Poultry diseases, Fish<br>diseases | module exam MC                                     |
| June  |  | module exam MC                                     |
| July  | Histopathology 2   | block exam practical/MC                            |

| Time  | Subject   | Form of examination                                     |
|---|---|---|
| (after end of lectures)                                   | Epizootics control and Epidemiology of infectious diseases  | final exam oral   |
|   | Animal husbandry and Animal hygiene   | block exam oral   |
|   | Retakes in <ul style="list-style-type: none"> <li>• Bacteriology and Mycology</li> <li>• Parasitology</li> <li>• Pharmacology and Toxicology</li> <li>• Animal nutrition</li> <li>• Animal husbandry and Animal hygiene</li> <li>• Epizootics control and Epidemiology of infectious diseases</li> <li>• Animal welfare and ethology</li> </ul> |   |
| <b>9<sup>th</sup> and 10<sup>th</sup> Semester, resp.</b> |   |   |
| January or June, resp.                                    | Manufacture and Prescription of medicines   | block exam practical: manufacture of drugs              |
| <b>11th Semester</b>                                      |   |   |
| from October to March                                     | Internal medicine   | block exam practical                                    |
|   | Surgery and Anaesthesiology   | block exam practical                                    |
|   | Reproductive medicine   | block exam practical                                    |
|   | Avian diseases  | block exam practical/oral                               |
|   | Manufacture and Prescription of medicines   | block exam written/oral: Prescription/ Drug legislation |
|   | Forensic veterinary medicine and Veterinary professional legislation  | final exam oral   |
|   | Pathology   | block exam (necropsy) practical/oral                    |
|   | Food sciences and Food hygiene  | block exam practical/oral                               |
|   | Meat hygiene  | block exam practical/written/oral                       |
|   | Milk hygiene  | block exam practical/written/oral                       |

MC: Multiple choice examinations

Block exam: Examination of non modular teaching units and practical skills

Final exam: Examination without further modular teaching units and block exam

### Form(s) of examination

In the Preclinical Examination (*Physikum*) the examinations are mostly oral (except written examinations in Physics, Zoology and Animal Breeding and Genetics) and may include a practical part.

Table 5.1 depicts the forms of examinations in the Veterinary Examination. Most of the disciplines are subject of continuous assessment by the module and block exams. Module examinations are multiple choice tests (MC) only. The students have the opportunity to collect

scores in the subjects taught in the modules over a period of 4 semesters (5<sup>th</sup> to 8<sup>th</sup> term) and to compensate a fail in another module. Block examinations may be written (including MC) or oral and often include a practical/clinical part and a final report written by the candidates.

### Review of MC questions

The Faculty has established a committee for review of the multiple choice questions of module examinations. This group consists of at least one member of the clinics, paraclinics and veterinary public health as well as the Dean for Study Affairs and the chairman of the Board of Examiners of the Veterinary Examination. The aim of this committee is to sustain an appropriate quality and reliability of the MC questions.

Four weeks before each module test the questions have to be sent to the review-group. The group will review the questions; the authors of the questions are invited to join the session.

After the review all questions that do not fulfil the criteria are returned to the author for correction with an explanation of the flaws and a suggestion of how to overcome them.

### External examiners

For each discipline there are two examiners at least who are mostly members of the Faculty. For the following subjects external examiners have been appointed as members of the respective Board of Examiners:

| Subject                                    | External Examiner  |   |
|--|--|---|
| <b>Physics</b>                             | Prof. Dr. B. Rheinländer<br>Prof. Dr. Andreas Pöppel                   | Faculty of Physics, University of Leipzig   |
| <b>Chemistry</b>                           | Prof. Dr. Dieter Sicker  | Faculty of Chemistry, University of Leipzig   |
| <b>Botany</b>                              | Dr. Monika Möschke<br>PD Dr. Martin Freiberg                           | Faculty of Biosciences and Pharmacy,<br>Institute of Biology, University of Leipzig   |
| <b>Animal breeding and Genetics</b>        | Prof. Dr. Hermann Swalve<br>Prof. Dr. Lutz Schüler<br>Dr. Steffen Maak | Institute for Agronomy and food sciences<br>University of Halle<br>Research Institute for Biology of Farm Animals, Dummerdorf |
| <b>Radiology</b>                           | Prof. Dr. Wolfgang Dörr  | University Clinic for Radiology<br>University of Dresden  |
| <b>Veterinary professional legislation</b> | Dr. Karlheinz Simon  | Practitioner  |

### Retakes and time of examinations

According to § 17 TAppV a maximum of two retakes of an examination in a subject is allowed. An additional member of the Board of Examiners must be present during the second retake.

The students have to pass all examinations including retakes within one year after admittance to the examination. This duration may only be extended in case of illness upon medical certificate.

## Examination and start of other courses

According to the Rules for Teaching and Examination of the Faculty, the students can only participate in the courses of the following semester, if they have passed the foregoing examinations as follows:

|  |   |
|--|---|
| 2 <sup>nd</sup> semester                     | successfully finished the subjects physics, chemistry and zoology of the 1 <sup>st</sup> part of Preclinical Examination ( <i>Vorphysikum</i> )                         |
| 5 <sup>th</sup> semester                     | at least 4 out of 5 subjects in the 2 <sup>nd</sup> part of the Preclinical Examination ( <i>Physikum</i> ) successfully finished                                       |
| 6 <sup>th</sup> semester                     | participation in all module and block examinations of the foregoing semester and successfully passed the final examinations in Clinical propaedeutics and Radiology     |
| 7 <sup>th</sup> and 8 <sup>th</sup> semester | participation in all module and block examinations of the foregoing semester  |
| 9 <sup>th</sup> semester                     | successfully passed at least 9 out of 10 subjects of the Veterinary Examination which are regularly finished until the end of the 8 <sup>th</sup> term (see Table 5.1). |

### 5.1.4 EVALUATION OF TEACHING AND LEARNING

#### Methods used to assess the quality of teaching in the Faculty

Evaluation of teaching quality is implemented at the Faculty for many years and is under the supervision of the Dean for Study Affairs. In cooperation with ZEM ("Centre for Evaluation and Methods", University Bonn) the University Leipzig has established a centralised online evaluation system which is also extensively used by the Faculty of Veterinary Medicine. The duty to evaluate teaching quality has been officially proclaimed by the University in the "*Lehrevaluationsordnung*" (Teaching Evaluation Order) and a central university working group has been founded. This order obliges the Faculty of Veterinary Medicine to approve a "*Lehrevaluationsplan*" (plan for evaluation of teaching quality) in yearly intervals. According to this plan each institution of the Faculty is obliged to appoint at least one course per year for evaluation by students. Students who want to participate in evaluation of teaching enter their mail address and signature into a list which is forwarded to the central working group. With the start of the evaluation period (which is defined by the lecturer for the respective course) students are individually invited to login into the online evaluation system by email and reminded up to three times.

The online questionnaire contains some fixed positions but may be modified or amended by lecturers according to the needs of the course. In addition to the selection of one of the preset answers to the various questions related to the respective course students have the option to give their personal comments. The same system has been used to get response by the students on the newly established modular teaching. This has been particularly important and helpful to rapidly identify and, if possible, eradicate and avoid unfavourable aspects that were experienced in the first round of modular teaching in winter term 2007/2008.

In addition to the online evaluation system for intramural teaching, questionnaires have been developed by the Faculty to assess the quality of extramural training. Both students and extramural instructors are asked for response concerning their impression on the efficacy of training. A letter forwarded with the questionnaire is thought to improve awareness of the instructors concerning the expectations of the Faculty and informs the instructors on what they can expect from the students. The first run of evaluations yielded a very positive response of the extramural instructors. This procedure hopefully will also increase the links between extramural instructors and the Faculty.

Alumni and Faculty staff members are also asked for their opinion and experience on various aspects of veterinary education, academic affairs, working environment, career development etc. by online evaluation. The respective information is internally discussed and supports decision procedures at the Faculty level.

A comprehensive report on perception of the university by a) the local public, b) companies, c) decision makers, d) university staff members, e) students and f) alumni was published in 2008 and is available to the evaluation group on request.

### **Follow-up given to the evaluation**

The students and teachers have access to the results of the teaching evaluation. The results serve as a basis for the assessment of teaching quality and individual teaching performance and for discussions of improvements.

### **5.1.5 STUDENT WELFARE**

Students are informed on the potential risks that may result from exposure to infectious and other hazardous materials during teaching activities. The risks and suitable protection measures are explained by the responsible lecturer at the beginning of the respective course and laid down in formal orders that are approved by the Commission for study affairs and the Faculty Council. All enrolled students are in possession of health insurance and casualty insurance.

Students with problems related to organisational matters (e.g. attendance of teaching units, examinations) have access to guidance by the Dean's office (*Studentensekretariat, Prüfungsamt*) and may request personal advice by the Dean for Study Affairs or the responsible Chairman of the Board of Examiners. In many instances, students discuss their specific problems directly with the respective teaching staff to find satisfactory solutions.

The university offers general guidance to students of all faculties ("*Zentrale Studienberatung*"). This includes psychological advice and psychotherapy. A variety of training opportunities (e.g. time management, handling of stress, exam pressure) are accessible to students with related problems. Equal opportunity commissioners at the Faculty level and at the university are responsible in case of discrimination of students related to gender, nationality, handicap etc.

Students seeking for jobs or accommodation are supported by the “*Studentenwerk*”. The International centre (“*Akademisches Auslandsamt*”) is responsible for students from other countries. A career centre at the university is supposed to help graduates to find qualified positions. Events to specifically inform veterinary students on professional options are organised by industries, professional organizations and the *Freundeskreis* (see below).

Each year, about 130 new students from all over Germany begin their studies at the Faculty of Veterinary Medicine in Leipzig. The Dean, Vice-Dean, Dean for Study Affairs, and third-semester students bid them welcome on their first day of studies. Following the official welcome by the Dean, they are shown around the campus by our third-semester students who also answer questions about the academic program and about living in Leipzig. Thereafter, the newly enrolled students can experience our strong sense of community at the Faculty firsthand at a welcoming barbecue.

### **Get together for the university entrants**

In addition to the welcome of the newcomers by our second-year students, they are invited to a get-together by the professors in the second week of the semester to socialize over beer and snacks.

### **Student Traditions**

Over the years, quite a few traditions have developed at our Faculty. One of these is the annual Christmas party, where our third-year students perform a slightly revised version of the Christmas story, incorporating persons and episodes from the Faculty. Parties in the canteen and barbecues at the campus barbecue spot, which the students organise, are welcome diversions from the demanding academic routine. Twice a year there is a soccer tournament at the School’s own sports field. One of the highlights is the so-called *Bergfest* taking place in May, where our sixth-semester students celebrate the passing of the *Physikum* and the fact that they have successfully completed the first half of their studies. After a lot of planning and organizing, the students dance and sing their way from one lecture room to the next, thus celebrating with the whole Faculty for three days. Members of the different Institutes compete in our Clinic Games which are part of the festivities. Since 2007, a Faculty summer party, to which students from other veterinary faculties are invited, is part of the *Bergfest* celebrations as well. The grand finale of the *Bergfest* is a ball with an entertaining program and certainly a lot of dancing; members of the academic staff and parents of students are welcome to attend. Last but not least, the so-called *Exma* lecture, organised by our newly minted veterinarians, and the graduation ball, including the handing over of the diplomas, are the last celebrations in the student lives of our students.

### **Department’s Student Organisation**

The *Fachschaft*, i.e. the students of the Faculty of Veterinary Medicine in their entirety, elect their representatives once a year and send its members – committed students of all ages – to academic committees, such as, the Council of the Faculty, the Study Commission, work groups, and the Students’ Council of the University of Leipzig, where they represent the interests of the students. Networking with the other German and Austrian veterinary department’s student organisations takes place regularly, for instance, at the annual DFKV conference. The *Fachschaftsrat* meets twice a month to discuss suggestions, ideas,

problems, and worries of the students and other topics concerning the Faculty and the University. Beyond the meetings, the *Fachschaftsrat* cares for all students, organizing lecture transcripts, sale of equipment, book markets, and an annual Saint Nicholas' Day party. The Faculty provides rooms and infrastructure to the *Fachschaftsrat* for meetings and activities.

### **Student clubs**

Outside of the School, the students of veterinary medicine are actively participating in student life as well. For some years before reunification, the School's name was „TV – Division of Animal Production and Veterinary Medicine“ and this is still the name of one of the oldest students clubs in Leipzig. The club offers music and dancing, and frequently practicing veterinarians who've long since completed their studies are among the guests. Those who like meeting nice people in the evenings may want to go to the „Schwemme“ where Sundays through Wednesdays the students club at the dormitory „Strasse des 18. Oktober 33“ opens its doors for visitors. The motto of the club's immensely popular carnival parties (there are two) is „TV-Helau“. Here, cabarets as well as costumes contribute to the atmosphere of fun.

### **Veterinarians without Borders**

A group of students from various semesters have founded a chapter of „Veterinarians without Borders“ at the School of Veterinary Medicine, the only such student chapter in Germany. „Veterinarians without Borders“ is an international organization dedicated to help for developing countries in the so-called Third World by sending people and money. Currently, projects exist in the South of Sudan (health in cattle), in Uganda (breeding domestic cattle to support children orphaned by AIDS), and in Ghana (planning of hen-houses in the context of a project to help street children). Leipzig's „Veterinarians without Borders“ regularly presents its work in lectures and also organises practical trainings in Africa, Asia, and South America. The organisation welcomes active participation and new ideas.

### **Sport**

With all the work and partying, sport seems to be a welcome change for many. The School has its own soccer field where not only male teams compete. Additionally, the university offers a broad range of sport activities which is open to students of all disciplines.

### **Ending of Enrolment (Exmatrikulation)**

When graduation comes, the School invites all parents, professors, and fellow students for a memorable celebration. After the graduation has been celebrated with a ceremony the faculty members, the graduated students and their students get together at a ball.

### **Doctoral graduation ceremony**

Twice a year, doctoral students receive their certificates during a graduation ceremony. In the summer term, this ceremony is held in the town-hall; in the winter (December, the „dies academicus“) in the „Alte Handelsbörse“. At these events, „Jubilee“ doctors who have held their doctorates fifty years ago, are given renewal certificates.

### **Friends of the School of Veterinary Medicine Leipzig**

On October 13, 1990 members, friends, and patrons of the Faculty founded the „Friends of the School of Veterinary Medicine Leipzig“. The Friends aim to support the School in its teaching and research activities in the areas of treatment of animals, protection of animal

health and well-being, and protection of human health. Most important are the training of the students, the continuing education of veterinarians, and the support of young researchers. Another focus is the raising of awareness in the general population for the veterinary sciences as well as the work of veterinarians. The Friends of the School of Veterinary Medicine is managed by a board consisting of President, Vice-President, Treasurer, Secretary and the Dean and a representative of the students, assisted by a 12-member governing board. It counts approx. 500 members with an increasing proportion of students. The membership fees and contributions by individuals and corporate sponsors are used exclusively for non-profit purposes. Two examples: with this money, the library was able to acquire modern textbooks and lecture halls, seminar rooms, and clinics were equipped with modern technology. Furthermore, the „Friends“ support various activities to complement the regular curriculum. Young researchers of the School are eligible for financial assistance (up to EUR 200) to actively participate in conventions and conferences. There is an annual prize for the best student of each graduating class, and exceptional dissertations are given the Wilhelm-Ellenberger-Award. On occasion of the „Leipziger Tierärztekongress“ the best clinical dissertation is awarded the „TVD Brinkmann, Gudd and Tindler“ award. Jointly with the Dean the Friends edit the Journal of the Faculty („Umschau“).

## 5.2 COMMENTS

The Faculty is determined to provide modern teaching in an adequate teaching environment and feels its responsibility to educate well trained graduates of high social competence. This is reflected by the profound achievements made in the development of the new curriculum and the documented awareness of practitioners concerning the quality of teaching in Leipzig (see [Hallfritsch F](#), [Stadler O](#), [Hartmann K](#) (2005): Colleges of veterinary medicine in Germany - assessment of knowledge of recently graduated veterinarians from different colleges by veterinarians in private practice. *Tierärztl. Umschau* 60, 591-594).

## 5.3 SUGGESTIONS

More experiences with the new curriculum have to be made to allow a proper analysis of benefits and drawbacks before reasonable suggestions for further improvement of the curriculum can be made. It is expected that the new curriculum will need continuous revision to achieve optimal results. For this purpose, the working group *Neue Lehre* will have to continue its activities in the foreseeable future. Additional staff should be provided by the university to support this important function which can not be covered in the required intensity by regular Faculty staff members.

## 5.4 STUDENTS COMMENTS AND SUGGESTIONS

The general conditions for studying veterinary medicine in Leipzig are highly satisfying. The city of Leipzig offers student dormitories close to the Faculty's campus, which means three minutes to the campus and five to ten minutes to the city centre by bike. For those who do not ride bike, the Faculty has its own tram stop. So, living central and close to the Faculty does not exclude each other at all. In general, the rents in Leipzig are much lower than for example in Munich thus students should not have too many difficulties in finding a place they can afford.

The campus itself is like a small village. Several lawns, lots of benches, the barbecue area and a football field, which is frequently used by the students, make it easy to feel comfortable here. In case of the weather being cold or rainy, we can switch to the cafeteria. It would of course be great to have some sort of common room for the students, as the cafeteria closes its doors in the afternoon.

A computer cabinet is open for everyone, offering free access to the internet for research, to check emails and everything else. The only thing missing is a printer we could use by paying with coins or with our electronic university cards.

For the students in the preclinical years, the Faculty provides so called bone boxes. A group of six students shares one of those boxes, which allows them to take bones home for studying and to bring them back any time they like. We have experienced this system, which is not common among the German veterinary faculties, to be very helpful. Furthermore, students of each year have the possibility to use lockers for free to store their clinical equipment safely on the Faculty ground.

In the histology course room we find modern microscopes and flat screens for displaying slides during the courses. For students who are willing to prepare for the tests, the course room is opened the whole day. The very cooperative professors sometimes even open the room on weekends before tests.

We are really looking forward to the new building on our campus which is supposed to be finished in 2009. It will not only accommodate a new big multimedia lecture hall, but also the new library and the cafeteria.

The Dean's office is the place to go if there are any questions concerning the courses, dates, administrative matters. The secretaries are much exerted to help us and the exchange of information between the office and students is always reliably, regardless if personally or via email.

Just across the road you find the Max-Planck-Institute for Evolutionary Anthropology, with which the Faculty maintains scientific exchange. Members of the Max-Planck-Institute even offer additional lessons to gain knowledge in veterinary related subjects.

Every year, we welcome about 150 new students at our Faculty – and that with quite some effort. They get a magazine specially created for them, in which they find explanations of the different courses, a map of the Faculty, reports about the most important places in Leipzig and a lot more helpful information. The second year students show them around the campus, organise a barbecue in the afternoon as well as a rally through the city centre and arrange a welcome party for them, taking place in our cafeteria. The first year students will soon find out that these “Mensaparties” are a tradition at our Faculty which is well known among students of all faculties in Leipzig. We hope that we will be allowed to continue this tradition in the new building, as they are quite important for us and help making social contact between the different years. In fact, our discotheque “TV-Club” and the pub “Schwemme” are also proof of our successful effort to make life as a veterinary student more than just studying together.

The professors invite the new students to get-together with some food and drink to introduce themselves and to answer the students' questions. With only 150 students per year, the contact with the teaching staff is quite personal in Leipzig. Alumni of this Faculty really feel they have been prepared for life after university not only professionally, but also personally.

We do have the strong impression that the professors of our Faculty are honestly interested in what we learn and our success. In case that we could not discuss all matters in the scheduled lectures, professors often offer additional lectures in the evenings in their spare time. Lecture scripts and materials going beyond the lecture can be downloaded on the institutes' websites or on "moodle", the university's e-learning platform.

The tutors and professors do their best to facilitate the change from TAppO to TAppV and they are really willing to convert the criticism and the suggestions they get via evaluations, which are regularly conducted.

The Leipzig Veterinary Congress regularly takes place at the Leipzig Congress Center and there is the possibility for us to attend it. The "Freundeskreis Tiermedizin der Universität Leipzig" is an association of students, alumni and professors which supports the Faculty in several ways, e.g. by organizing various vocational preparation activities.

The small number of 150 students per year improves the quality of the studies also concerning the clinical lessons. With only about ten students around one animal, the "hands on the animal"-motto is directly converted into teaching here. Interested students can also join operations and examinations in the veterinary clinics whenever they like. One has just to ask the veterinarian in charge, if he or she may come along to the stables with the doctors. This is a good way to learn about practical routine. There are students working in almost every institute and clinic as assistants, so called "Bremser", helping with the student courses, the daily work and gain insight into the institutes and clinics.

The new TAppV brought lots of reformations. The natural scientific part of the preliminary medical examination – the "Vorphysikum" – is now taken after the first semester. That means quite a hard first semester for the new students, as the medical courses like anatomy or histology are not yet taking place and the studies are basically consisting of chemistry, physics, botany and zoology. It is harder to motivate yourself because you cannot always see the practical relevance. But once the "Vorphysikum" is done, it is instantly improving. For the second year students it is a great improvement to have the tests in biochemistry, histology, anatomy and physiology stretched over three semesters instead of only two.

The module system is an effective way to spread the students' work all over the semester instead of accumulating it at the end. A positive side effect of the module system is that institutes and clinics have to coordinate the content of the lectures. But from our point of view there have to be some further improvements on this point. The module system gives us a better overview on one topic and repetitions of lecture contents are reduced.

Still, the organizational handling of those reformations has to be stabilized in the following years.

All in all, studying veterinary medicine in Leipzig was a choice that none of us has regretted. The relation and communication between tutors and students is very good. Each year elects its representatives, so called "Semestersprecher", who improve the exchange of information by being the link between the Dean's office and the students. Besides this there is a students' committee, called "Fachschaft", which consists at the moment of thirteen elected students from all years. They supply us with materials like lecture scripts or gloves and help the students with problems of whatever kind. They elect student representatives for different

committees of our Faculty and the university and maintain regular contact to the other veterinary faculties in Germany, Austria and Switzerland.

The modern way of studying is always present whether in choosing the compulsory core elective courses online or in having one screen for two students in the histology courses. It is great to hear that doctors in private practices regard alumni of our Faculty as being well prepared vets.

**Suggestions for further improvements:**

- Wireless LAN on our campus would be a further step to modern studying, since this is nowadays' standard.
- A common room at our campus for learning would be useful.
- Only forty seats in the new cafeteria are far too few in our opinion and may cause problems.

**Comment of the Dean's Office:**

The students' report has been independently prepared by the students. The actual number of seats in the new canteen is 100.

## Chapter 6

### FACILITIES AND EQUIPMENT

#### 6.1 FACTUAL INFORMATION

##### 6.1.1 PREMISES IN GENERAL

All institutes and clinics of the Faculty (except the Institute for Animal Nutrition, Nutrition Diseases and Dietetics) are concentrated in one campus. This area is in close vicinity to the bio-medical research establishments, the Center for Biotechnology and Biomedicine of the University of Leipzig (*Bio-City Leipzig, BBZ*), the Fraunhofer-Institute for Cell Therapy and Immunology and the Max-Planck-Institute for Evolutionary Anthropology. Part of the Institute of Immunology (professorship for Molecular Pathogenesis) is situated in the BBZ.

The Institute for Animal Nutrition, Nutrition Diseases and Dietetics is located in a distance of about 6 km in Leipzig-Möckern. In the near future this institute will move to the Faculty campus.

The Oberholz Farm for Teaching and Research is located 10 km from the campus of the Faculty.

# Universität Leipzig

## Faculty of Veterinary Medicine

### Campus Map



- |   |  |  |
|---|--|--|
| 1 Department of Anatomy, Histology and Embryology<br>Institute of Animal Hygiene and Veterinary Public Health                   | 7 Large Animal Clinic for Internal Medicine<br>Institute of Immunology       | 14 Primate Facility  |
| 2 Institute of Physiology   | 8 Institute of Pharmacology, Pharmacy and Toxicology                         | 15 Technology (caretaker)<br>Computerpool                                |
| 3 Institute of Animal Hygiene and Veterinary Public Health<br>Institute of Food Hygiene<br>Institute of Physiological Chemistry | 9 Training Smithy  | 16 Institute of Bacteriology and Mycology<br>Institute of Virology       |
| 4 Central Building for Teaching with library and canteen<br>(under construction)  | 10 Clinic for Birds and Reptiles   | 17 Large Animal Clinic for Theriogenology and Ambulatory Services (AGTK) |
| 4a Canteen<br>Department's Student Organisation / TOG   | 11 Large Animal Clinic for Surgery<br>Office of the Dean, Examination Office | 18 Institute of Parasitology   |
| 5 Institute of Food Hygiene<br>Institute of Bacteriology and Mycology   | 12 Large Animal Clinic for Surgery   | 19 Institute of Pathology  |
| 6 Large Animal Clinic for Internal Medicine   | 13 Department of Small Animal Medicine                                       | 20 Administration  |
|   |  | 21 Dissecting room Anatomy   |

## Faculty of Veterinary Medicine and its scientific environment



- 1 Main Entrance of the Faculty
- 2 Bio-City of the University of Leipzig
- 3 Fraunhofer Institute for Cell Therapy and Immunology
- 4 Max-Planck-Institute for Evolutionary Anthropology
- 5 Deutsche Nationalbibliothek (German National Library)

## 6.1.2 PREMISES USED FOR CLINICS AND HOSPITALISATION

**Table 6.1**

**Places available for hospitalisation and animals to be accommodated**

|                                | <b>Species</b>              | <b>No. places</b>       |
|--------------------------------|-----------------------------|-------------------------|
| <b>Regular hospitalisation</b> | cattle                      | 31                      |
|                                | horses                      | 40                      |
|                                | small ruminants             | 11                      |
|                                | pigs                        | 33                      |
|                                | dogs                        | 74                      |
|                                | cats                        | 25                      |
|                                | exotic animals              | 22                      |
|                                | poultry, pet birds          | 20                      |
|                                | other <sup>1</sup>          | 13                      |
|                                | <b>Isolation facilities</b> | farm animals and horses |
| small animals                  |                             | 12                      |
| other <sup>2</sup>             |                             | 15                      |

<sup>1</sup>) Rodents, fish

<sup>2</sup>) Poultry, pet birds

## 6.1.3 PREMISES FOR ANIMALS

### Facilities for rearing and maintaining normal animals

Normal animals for teaching purposes are maintained in the clinics and several institutes. Another facility for rearing and maintaining farm animals for teaching is the Oberholz Farm for Teaching and Research.

In addition, various experimental animal species (small rodents, rabbits, dogs, New world primates) are kept for research in some institutes (e.g. Institute of Physiology, of Physiological Chemistry, of Parasitology, of Pharmacology, of Immunology, of Virology, of Bacteriology, of Animal Nutrition) and used for teaching purposes if necessary.

In Table 6.2 the number of normal animals maintained for teaching purposes in clinics and several institutes is listed. Table 6.3 shows the average numbers of animals housed in the Oberholz Farm for Teaching and Research in the years 2005-2007.

**Table 6.2**

**Normal animals maintained for teaching purposes in clinics and institutes of the Faculty (year 2007)**

| <b>Animal species</b> | <b>Number/places of animals</b> | <b>Institution</b>                                 |
|-----------------------|---------------------------------|--|
| Cattle                | 4                               | Large Animals Clinic for Internal Medicine         |
|                       | 4 (3 with calves)               | Large Animal Clinic for Theriogenology             |
| Horses                | 3                               | Large Animal Clinic for Surgery                    |
|                       | 4                               | Large Animals Clinic for Internal Medicine         |
|                       | 5                               | Large Animal Clinic for Theriogenology             |
| Swine                 | 10                              | Large Animal Clinic for Surgery                    |
|                       | 10                              | Large Animals Clinic for Internal Medicine         |
|                       | 3 (2 with piglets)              | Large Animal Clinic for Theriogenology             |
| Small Ruminants       | 6                               | Large Animal Clinic for Surgery                    |
|                       | 6                               | Large Animals Clinic for Internal Medicine         |
|                       | 4 (3 with lambs)                | Large Animal Clinic for Theriogenology             |
|                       | 4 *                             | Institute of Physiology                            |
| Dogs                  | 12                              | Institute of Pharmacology, Pharmacy and Toxicology |
|                       | 3                               | Department of Small Animal Medicine                |
| Poultry               | 12                              | Clinic for Birds and Reptiles                      |
| Reptiles/pet birds    | 18/6                            | Clinic for Birds and Reptiles                      |

\*) Sheep with rumen fistula

Table 6.3

## Farm animals housed at the Oberholz Farm for Teaching and Research

| Farm animals                    | Number of animals in average |      |      |
|---------------------------------|------------------------------|------|------|
|                                 | 2005                         | 2006 | 2007 |
| <b>Dairy Cattle, total</b>      | 62                           | 71   | 70   |
| - dairy cows <sup>1</sup>       | 32                           | 38   | 39   |
| - female calves                 | 7                            | 7    | 8    |
| - heifers                       | 23                           | 26   | 22   |
| <b>Pigs, total</b>              | 302                          | 310  | 284  |
| - sows and gilts <sup>2</sup>   | 53                           | 42   | 33   |
| - piglets                       | 116                          | 96   | 100  |
| - gilts                         | 102                          | 125  | 109  |
| - fattening swine               | 31                           | 37   | 41   |
| <b>Sheep, total</b>             | 303                          | 273  | 240  |
| - female breeding sheep         | 134                          | 121  | 104  |
| - lambs                         | 123                          | 97   | 71   |
| - young females for breeding    | 35                           | 38   | 56   |
| - rams                          | 11                           | 17   | 9    |
| <b>Fallow Deers<sup>3</sup></b> | 113                          | 91   | 92   |
| - adults                        | 57                           | 46   | 47   |
| - calves                        | 56                           | 45   | 44   |

<sup>1</sup>average herd milk yield 9.500 kg/305 days with low somatic bulk milk cell count, high protein and fat concentrations

<sup>2</sup>production of 23 healthy piglets per sow and year in average

<sup>3</sup>kept in a 12 ha fenced enclosure; slaughtering of 40 to 50 animals once per year

#### 6.1.4 PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING

**Table 6.4**  
**Premises for lecturing**

| <b>No.</b>                                     | <b>Location</b>                                 | <b>places</b> |
|--|---|---------------|
| 1  | Department of Anatomy, Histology and Embryology | 145           |
| 2  | Institute of Pathology 1                        | 133           |
| 3  | Institute of Pathology 2                        | 102           |
| 4  | Large Animal Clinic for Theriogenology          | 138           |
| 5  | Large Animal Clinic for Surgery                 | 123           |
| 6  | Large Animal Clinic for Internal Medicine       | 148           |
| 7  | Central Building for Teaching                   | 160           |
| 8  | Department of Small Animal Medicine             | 90            |
| <b>Total Number of places in lecture halls</b> |   | <b>1039</b>   |

**Table 6.5**  
**Premises for group work**

| <b>No.</b>  | <b>Location</b>   | <b>Places</b> |
|---|---|---------------|
| 1   | Department of Anatomy, Histology and Embryology                                     | 12            |
| 2   | Department of Anatomy, Histology and Embryology                                     | 12            |
| 3   | Department of Animal Hygiene and Veterinary Public Health, seminar                  | 20            |
| 4   | Institute of Food Hygiene, course 1   | 24            |
| 5   | Institute of Food Hygiene, course 2   | 24            |
| 6   | Institute of Food Hygiene, library  | 30            |
| 7   | Institute of Food Hygiene, seminar 1  | 20            |
| 8   | Institute of Food Hygiene, seminar 2  | 10            |
| 9   | Institute of Parasitology, course<br>(incl. Bacteriology, Mycology, Histopathology) | 72            |
| 10  | Institute of Pathology, seminar 1   | 10            |
| 11  | Institute of Pathology, seminar 2   | 10            |
| 12  | Institute of Pharmacology, seminar  | 20            |
| 13  | Institute of Physiological Chemistry  | 32            |
| 14  | Institute of Physiology, seminar  | 20            |
| 15  | Institute of Virology, seminar  | 12            |
| 16  | Central Building for Teaching, seminar 1  | 40            |
| 17  | Central Building for Teaching, seminar 2  | 40            |
| 18  | Central Building for Teaching, seminar 3  | 40            |
| 19  | Clinic for Birds and Reptiles, seminar  | 20            |
| 20  | Large Animal Clinic for Internal Medicine, check-up room                            | 25            |
| 21  | Large Animal Clinic for Internal Medicine, demonstration 1                          | 10            |
| 22  | Large Animal Clinic for Internal Medicine, demonstration 2                          | 10            |
| 23  | Large Animal Clinic for Internal Medicine, demonstration 3                          | 25            |
| 24  | Large Animal Clinic for Surgery, exercise ring                                      | 12            |
| 25  | Large Animal Clinic for Surgery, seminar  | 30            |
| 26  | Large Animal Clinic for Surgery, surgery 1  | 12            |
| 27  | Large Animal Clinic for Surgery, surgery 2  | 12            |
| 28  | Large Animal Clinic for Surgery, x-ray  | 4             |
| 29  | Small Animal Clinic, anaesthesia  | 6             |
| 30  | Small Animal Clinic, CT   | 2             |
| 31  | Small Animal Clinic, dental examination room  | 2             |
| 32  | Small Animal Clinic, endoscopy  | 2             |
| 33  | Small Animal Clinic, library  | 30            |
| 34  | Small Animal Clinic, MRI  | 2             |
| 35  | Small Animal Clinic, poli-clinic 1 – 5  | 25            |
| 36  | Small Animal Clinic, seminar  | 10            |
| 37  | Small Animal Clinic, specialities 1 – 5   | 25            |
| 38  | Small Animal Clinic, stationary patients 1 – 7                                      | 14            |
| 39  | Small Animal Clinic, surgery  | 3             |
| 40  | Small Animal Clinic, x-ray, ultra-sonography 1 – 3                                  | 6             |
| <b>Total number of places in rooms for group work</b> |   | <b>735</b>    |

**Table 6.6:**  
**Premises for practical work (Number of laboratories for practical work by students)**

| <b>No.</b>  | <b>Location</b>  | <b>Places</b> |
|---|--|---------------|
| 1   | Department of Anatomy, Histology and Embryology, dissection          | 50            |
| 2   | Department of Anatomy, Histology and Embryology, preparations        | 84            |
| 3   | Institute of Animal Hygiene and Veterinary Public Health, chemistry  | 10            |
| 4   | Institute of Animal Hygiene and Veterinary Public Health, lab 1 – 4  | 26            |
| 5   | Institute of Animal Hygiene and Veterinary Public Health, virology 1 | 6             |
| 6   | Institute of Animal Hygiene and Veterinary Public Health, virology 2 | 4             |
| 7   | Institute of Animal Nutrition, computer pool                         | 18            |
| 8   | Institute of Animal Nutrition, course 1                              | 25            |
| 9   | Institute of Animal Nutrition, course 2                              | 25            |
| 10  | Institute of Animal Nutrition, lab                                   | 15            |
| 11  | Institute of Bacteriology and Mycology, lab                          | 4             |
| 12  | Institute of Food Hygiene, lab 1 – 8                                 | 24            |
| 13  | Institute of Food Hygiene, lab 11 – 13                               | 10            |
| 14  | Department of Anatomy, Histology and Embryology, microscopy          | 50            |
| 15  | Institute of Pathology, necropsies                                   | 65            |
| 16  | Institute of Pharmacology, course                                    | 24            |
| 17  | Institute of Pharmacology, lab                                       | 8             |
| 19  | Institute of Physiology, course 1                                    | 20            |
| 20  | Institute of Physiology, course 2                                    | 20            |
| 21  | Institute of Physiology, course 3                                    | 20            |
| 22  | Institute of Virology, lab 1 S2                                      | 12            |
| 23  | Institute of Virology, lab 2 C                                       | 12            |
| 24  | Institute of Virology, lab 3 S2                                      | 8             |
| 25  | Clinic for Birds and Reptiles, course 1                              | 20            |
| 26  | Clinic for Birds and Reptiles, course 2                              | 20            |
| 27  | Clinic for Birds and Reptiles, necropsies                            | 6             |
| 28  | Large Animal Clinic for Internal Medicine, course                    | 40            |
| 29  | Large Animal Clinic for Internal Medicine, lab                       | 5             |
| 30  | Large Animal Clinic for Theriogenology, demonstration 1              | 35            |
| 31  | Large Animal Clinic for Theriogenology, demonstration 2              | 35            |
| 32  | Large Animal Clinic for Surgery, course                              | 30            |
| 33  | Small Animal Clinic, lab 1 – 3                                       | 12            |
| <b>Total number of places in rooms for practical work</b> |  | <b>789</b>    |

## Health and safety measures

At the beginning of each practical or clinical course the students are informed on the hazards and the safety measures in the particular field according the German legislation on the fields of protection against infections, first aid, health and safety protection of the workplace, legal protection of working mothers etc.

Further all students are informed on the health preconditions during the practical work in the food area. There is a consultation with university medical staff about safety measures. The institutions are visited by the Security officer and in case of problems the institutions must follow their advice and improve the safety measures. Appropriate first-aid kits and equipment for cleaning and disinfection are available where necessary. The students have to follow the advices of the teaching personnel concerning behaviour, protective clothes etc.

### 6.1.5 DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES

- **Diagnostic laboratories**

Large Animal Clinic for Internal Medicine

- Haematology, clinical chemistry, cytology (1 lab)

Clinic for Birds and Reptiles

- Haematology, cytology (1 lab)

Large Animal Clinic for Surgery

- Haematology, clinical chemistry (1 lab)

Department for Small Animal Medicine

- Haematology, Blood Chemistry (1 lab)
- Urine and faeces (1 lab)
- Diagnostic cytology (1 lab)

Large Animal Clinic for Theriogenology and Ambulatory Services

- Haematology, clinical chemistry (1 lab)
- Spermatology (1 lab)
- *In-vitro* fertilisation and maturation (1 lab)
- Genotyping (1 lab)

- **Central clinical support services**

Large Animal Clinic for Internal Medicine

- Dentistry, oral diseases
- Ultrasonography (cardiology, pleural, peritoneal, muscle, renal, vessel and rectal US)
- ECG
- Endoscopy (broncho-, gastro-, cysto-, laparoscopy)
- X-Ray
- Bronchoalveolar fluid analysis
- Cerebrospinal fluid analysis
- Urine analysis
- Analysis of peritoneal fluid

Clinic for Birds and Reptiles

- Bacteriological diagnostics
- Mycological diagnostics
- Parasitological diagnostics
- Histopathological diagnostics

### 6.1.6 SLAUGHTERHOUSE FACILITIES

The slaughterhouse is directly situated in the building of the Institute of Food Hygiene on the campus of the Faculty of Veterinary Medicine. The meat technological unit includes all facilities for slaughtering pigs, sheep, cattle and equines and for further meat processing and waste disposal (cf. Chapter 6.1.7, 6.1.8). The meat technological unit is run by a butcher (master degree, licensed for teaching) and supervised by an official veterinarian (scientific staff) as appointed by the competent authority.

Animals for slaughtering are provided by local farms or the veterinary clinics. In addition, carcasses and organs/by-products are collected from nearby abattoirs (Altenburg, Weißenfels, Belgern, Mutschen; distance approx. 50 km) for demonstration purposes within courses and examinations. This service, which is performed by our butcher, also provides large numbers of organs for the teaching purposes of the Institute of Pathology.

### 6.1.7 FOODSTUFF PROCESSING UNITS

The **meat processing unit** is also directly integrated with the slaughtering facility in several rooms of the building of the Institute of Food Hygiene and used regularly in the course of the graduate teaching of students of veterinary medicine in the 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> semester, in the course of the Veterinary Examination (11<sup>th</sup> semester), and at certain times for postgraduate teaching.

There is one large room for meat technology which is equipped with standard machinery, such as a meat grinder, a cutting-mixer, a filling machine, a flake ice machine, and a vacuum packer. Other rooms are stipulated for heating and smoking/ripening processes, storage and, in addition, two storage rooms for cooling and one room for freezing.

Further, the recently inaugurated **facility for milk technology** (July 2007), directly situated on the campus (100 m from the Institute) with a capacity for 20 students, allows to extend the practical teaching on technological issues. Prospectively, it will be used for students of the 8<sup>th</sup> semester, for the Veterinary Examination (11<sup>th</sup> semester), and at certain times for postgraduate teaching.

Currently the milk facility is equipped with heating and cooling devices for milk, milk separator, butter churn, ice cream maker, cheese forms and press and one storage room for chilling. It was completed by a pilot scale cheese making device and additional working benches in August 2008. In addition, a research-cooperation exists with the MLUA (*Milchwirtschaftliche Lehr- und Versuchsanstalt*, Dairy Institute for Teaching and Research) Oranienburg. It is a 2 hour drive from Leipzig and offers the possibility to visit the milk technology unit, including a milk drying facility, with a smaller group of students (25 students).

Further access to food processing plants is provided by local producers of eggs (laying unit, candling, and packaging), milk (fermented products and cheese), fish (e.g. sushi) and meat products (e.g. sausages).

### **6.1.8 WASTE MANAGEMENT**

#### **Slaughterhouse and meat processing facilities**

Waste and confiscates which are produced during slaughter and meat processing at the respective facilities are treated according to legal regulations (1774/2000/EC, 999/2001/EC). Waste and confiscates are instantly separated from other meat and/or by-products or meat products. For this purpose they are transferred into special waste containers which are short-term stored (max. 2 days) in a special locked room for confiscates at a maximum temperature of +4 °C. Waste and confiscates are collected by and disposed of at an official rendering plant.

Microbiological wastes from courses or research are decontaminated by heat treatment in autoclaves and disposed via the Institute of Pathology.

Specified risk material is directly separated during slaughter or carcass trimming/dissecting. It is stained and separately stored from other meat and confiscates and disposed by a special official rendering firm.

Liquid waste effluents are treated according to legal regulations on pollution control (grills, fat traps and preliminary treatments).

#### **Institute of Pathology**

The cadavers and biological waste (coming from the Institute of Pathology and other institutions of the Faculty) are safely collected in appropriate containers, stored in separate 4 °C cooled chambers and prepared for the local waste disposal.

Further there are strict guidelines and legislations concerning the handling of chemical and radioactive waste.

### **6.1.9 FUTURE CHANGES**

The Institute of Animal Nutrition, Nutrition Diseases and Dietetics will be moved to the campus. This institute is currently located in Möckern (City of Leipzig) about 6 km away from the campus. The institute will get an existing building which will be reconstructed during the next two years. After this the Faculty campus will be completed. To have all the disciplines at one location is an important advantage for organization of the teaching process. Further it is planned to continue the reconstruction of the old buildings (e. g. Anatomy, Pathology). Next year the old building containing the canteen will be removed. Canteen will be integrated in the "Central Building for teaching with Library and Canteen".

Reconstruction the main building at the Oberholz Farm for Teaching and Research is currently planned.

### **6.2 COMMENTS**

The present status of the buildings is in general well suited to undergraduate teaching. The situation has been clearly improved during the last ten years. Basically, the constructional standard of the buildings is very good.

The Faculty also meets the demands for necessary equipment for undergraduate teaching. Replacement and modernizing of the equipment is from time to time hard to realize because the costs for equipment and materials are permanently increasing.

### **6.3 SUGGESTIONS**

The improvement of the teaching conditions at the Oberholz Farm for Teaching and Research is an urgent problem because the farm will be extensively used during the new established clinical-practical year starting in 2009. Further the Faculty sees the need for centralizing the rooms for administration and for a new experimental stable for food animals.

## Chapter 7

### ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

#### 7.1 FACTUAL INFORMATION

##### 7.1.1 ANATOMY

Small animals, horses and farm animals were obtained from clinics and from veterinary practices where the animals were euthanized for medical reasons.

Unfixed material is stored refrigerated or deep frozen. Fixed material is stored in formalin tanks. Formalin-fixed material is used for demonstration during lectures or in the practical courses.

**Table 7.1**

**Material used in practical anatomical training**

| Species     | Cadavers (2006 / 2007) |             | Specimen (2006/ 2007) |           |         | Cadavers for other use (2006 / 2007) |
|-------------|------------------------|-------------|-----------------------|-----------|---------|--------------------------------------|
|             | situs                  | preparation | forelegs              | hind legs | heads   |                                      |
| Dogs/Cats   | 60 / 60                | 30 / 30     | 30 / 30               | 30 / 30   | 30 / 30 |                                      |
| Ruminants   | 6 / 6                  |             | 30 / 30               | 30/30     | 10 / 10 |                                      |
| Equines     | 1 / 2                  |             | 15 / 15               | 15 / 15   | 5 / 5   |                                      |
| Pigs        |                        |             |                       |           |         | 5 / 5                                |
| Guinea-pigs |                        |             |                       |           |         | 30 / 30                              |
| Rabbits     |                        |             |                       |           |         | 30 / 30                              |
| Rats/mice   |                        |             |                       |           |         | 20 / 20                              |
| Chicken     |                        |             |                       |           |         | 40 / 40                              |
| Birds       |                        |             |                       |           |         | 20 / 20                              |
| Snakes      |                        |             |                       |           |         | 5 / 0                                |
| Turtles     |                        |             |                       |           |         | 2 / 0                                |
| Iguanas     |                        |             |                       |           |         | 2 / 0                                |

## 7.1.2 PATHOLOGY

**Table 7.2**

**Number of necropsies over the past 3 years**

| Species                  |                    | Number of necropsies |      |      | Average |
|--------------------------|--------------------|----------------------|------|------|---------|
|                          |                    | 2007                 | 2006 | 2005 |         |
| Food-producing animals   | cattle             | 58                   | 52   | 46   | 52      |
|                          | small ruminants    | 45                   | 19   | 19   | 28      |
|                          | pigs               | 284                  | 88   | 141  | 171     |
|                          |                    |                      |      |      |         |
| Poultry                  |                    | 221                  | 162  | 214  | 199     |
| Other zoo-, wild animals |                    | 195                  | 159  | 172  | 175     |
|                          |                    |                      |      |      |         |
| Small animals            | dogs               | 177                  | 202  | 222  | 200     |
|                          | cats               | 180                  | 213  | 188  | 194     |
|                          | other <sup>1</sup> | 649                  | 418  | 408  | 492     |

<sup>1</sup>) Small rodents, rabbits, pet birds, reptiles, fishes

In general, necropsies are carried out in the Institute of Pathology. Part of the necropsies of poultry, pet birds, reptiles and fishes are carried out in the Clinic for Birds and Reptiles

Additional sources of material for teaching of pathological anatomy are slaughterhouse material, biopsies sent for diagnosis, a collection of macerated and formalin-fixed organs and of bones as well as the slide collection of the Institute of Pathology. End of 2008, a complete set of histopathological slides will be available to the students in a digital image data pool for self-directed e-learning via internet.

## 7.1.3 ANIMAL PRODUCTION

### Availability of food producing animals

#### - On the site of the Faculty

Food producing animals for the practical teaching of students are kept in the clinics of the Faculty and at the Oberholz Farm for Teaching and Research. The details of species and numbers of normal animals maintained in these facilities are listed in Section 6.1.3 (Table 6.2 and 6.3).

#### - On other sites outside the Faculty

The students have further access to food-producing animals outside the Faculty by the visits by mobile clinic of farms with cattle, small ruminants, pigs and poultry. For details see Table 7.5 in section 7.1.8.1.

### 7.1.4 FOOD HYGIENE/PUBLIC HEALTH

#### Availability of farm animals and products of animal origin

Table 7.3a lists the numbers of samples from the food companies which will be used also for students' practical work

**Table 7.3a**  
**Number of animals/products received for examination**

|                              | <b>2005</b> | <b>2006</b> | <b>2007</b> |
|------------------------------|-------------|-------------|-------------|
| Milk and -products           | 236         | 235         | 359         |
| Eggs                         | 600         | 327         | 123         |
| Meat and -products           | 3835        | 914         | 955         |
| Swabs/hygiene control        | 1780        | 410         | 353         |
| Vegetables/ready-to-eat food | 7           | 31          | 39          |
| Slaughter:                   |             |             |             |
| - with meat inspection       | 13          | 8           | 2           |
| - without meat inspection    | -           | -           | 19          |
| <b>Total</b>                 | <b>6471</b> | <b>1925</b> | <b>1850</b> |

For demonstration purposes during the courses and examinations, the following quantities of samples (total quantity per study year) were collected from cooperation of the Institute of Food Hygiene with local abattoirs in 2007.

#### Course Meat Hygiene

**Table 7.3b**  
**Carcasses and organs for teaching Meat Hygiene in 2007**

| <b>Materials</b> | <b>Course meat hygiene</b> | <b>final exam meat hygiene</b> |
|------------------|----------------------------|--------------------------------|
| Pig              |                            |                                |
| Carcasses        | 52                         | 62                             |
| Organs etc.      | 88                         | 68                             |
| Cattle           |                            |                                |
| Carcasses        | 18                         |                                |
| Organs etc.      | 54                         |                                |

**Course Food Hygiene**

Samples for training Food Hygiene and origin:

Poultry (pathologically altered) from a poultry slaughterhouse, eggs from a laying farm, fish and -products, crabs and molluscs from a fish trade company, special food from local food markets, samples from the Central Marketing Organization of German Agricultural Industries.

**Course Dairy Hygiene**

For demonstration purposes and examinations during the courses milk and milk products are purchased at a local store, or are given by farms and other producing facilities (milk and milk products from sheep, goat, horses and buffalo).

## 7.1.5 CONSULTATIONS AND PATIENT FLOW SERVICES

### 7.1.5.1 CONSULTATION

All clinics of the Faculty are open 52 weeks (year round) and have regular consultations five days per week from 8 a.m. to 3:30 or 5 p.m. A round-the-clock emergency service is provided all year long.

### 7.1.5.2 PATIENT FLOW

The term “consultation” refers to those patients which come in and go out during daily consultation hours. “Hospitalisation” refers to those patients which are retained in the clinic as “in patients” following presentation.

**Table 7.4**  
**Number of cases: a) received for consultation, and b) hospitalised in the Faculty clinics, in the past three years**

| Species                            |                    | Number of cases |      |      |      |      |      | Average      |               |
|------------------------------------|--------------------|-----------------|------|------|------|------|------|--------------|---------------|
|                                    |                    | 2007            |      | 2006 |      | 2005 |      | a            | b             |
|                                    |                    | a               | b    | a    | b    | a    | b    |              |               |
| Food-producing animals             | cattle             |                 | 522  |      | 544  |      | 598  |              | 555           |
|                                    | small ruminants    |                 | 52   |      | 94   |      | 92   |              | 79            |
|                                    | pigs               |                 | 159  |      | 167  |      | 235  |              | 187           |
|                                    |                    |                 |      |      |      |      |      | <b>total</b> | <b>821</b>    |
|                                    |                    |                 |      |      |      |      |      |              |               |
| Equines                            |                    |                 | 1061 |      | 1000 |      | 933  |              | 998           |
| Poultry                            |                    | 0               | 0    | 0    | 0    | 0    | 0    | 0            | 0             |
| Other <sup>1</sup>                 |                    |                 | 16   |      | 33   |      | 37   |              | 29            |
|                                    |                    |                 |      |      |      |      |      |              |               |
| Small animals (companion, exotics) | dogs               | 6700            | 1618 | 6855 | 1400 | 6755 | 1844 | 6770         | 1621          |
|                                    | cats               | 1498            | 674  | 1887 | 603  | 1800 | 477  | 1728         | 584           |
|                                    | birds              | 2119            | 426  | 2017 | 378  | 1928 | 403  | 2021         | 402           |
|                                    | reptiles           | 1450            | 265  | 1370 | 255  | 990  | 231  | 1270         | 250           |
|                                    | fish               | 253             | 17   | 100  | 9    | 36   | 0    | 130          | 9             |
|                                    | other <sup>2</sup> | 634             | 108  | 768  | 120  | 677  | 100  | 693          | 109           |
|                                    |                    |                 |      |      |      |      |      | <b>total</b> | <b>16.674</b> |

<sup>1</sup>) alpacas, water buffalo, elephants, zebra, ostrich, camel, donkey

<sup>2</sup>) guinea pigs, hamster, rabbits, wild animals

### 7.1.6 VEHICLES FOR ANIMAL TRANSPORT

Large Animal Clinic for Internal Medicine:

2 trucks for large animal rescue

- Mercedes MB 413 CDI truck, 4 years old, transport of cows, sheep, goats, pigs
- Mercedes 814 truck, 10 years old to be replaced in 2008 by a new Mercedes 915 L Atego (equipped with air condition for the patients) for horses or cows, small ruminants.

Fees for transportation charged for horse owners are 0.77 €/km, for cow owners 0.47 €/km.

No fees are charged for owners of pigs or small ruminants.

Numbers of transportations in 2005: 50 for horses, 617 for ruminants and pigs.

Numbers of transportations in 2006: 64 for horses, 620 for ruminants and pigs.

### 7.1.7 ON-CALL EMERGENCY SERVICE

Emergency service is available as full-time, 24 h service, on 365 days per year. In the all three Large Animal Clinics and the Department of Small Animal Medicine at least one veterinary surgeon is present in-house at all times. Residents and trained students support the emergency service during night and weekends. In the Clinic of Birds and Reptiles one veterinarian on duty can be reached on call.

## 7.1.8 ON FARM TEACHING AND OUTSIDE PATIENT CARE

### 7.1.8.1 AMBULATORY (MOBILE) CLINIC

The Ambulatory (Mobile) Clinic is run by the Large Animal Clinic of Theriogenology and Ambulatory Services for farm animals and equines. In addition, the Clinic for Birds and Reptiles run a Mobile Clinic for poultry herd health service.

By the ambulatory services of the Large Animal Clinic of Theriogenology and Ambulatory Services, the Oberholz Farm for Teaching and Research as well as several private animal farms around the Faculty are visited routinely and also in emergency cases (obstetrics in cattle), including herd health management with reference to fertility control in swine (12 farms), cattle (26 farms) and alpacas (2 farms). As a special service the clinic carries out periodical visitations on farms with swine for early pregnancy diagnosis and ovulation control using ultrasonographic techniques.

The mobile clinic is open 24 hours a day. The average operating time per week is 30 hours. The approximate number of farm visits per year is 320. Students (up to 4) are integrated in the ambulatory services. Under the supervision of a veterinary surgeon they perform animal examination and treatment inclusive assisting in operations.

The operating time of the mobile clinic service of the Clinic for Birds and Reptiles is about 12 hours a week. The average number of visits is 40 per year. Number of poultry flocks visited temporarily decreased in 2006 due to owners' precautions concerning HPAIV H5N1 outbreaks.

The following vehicles are used to transport students working in the ambulatory (mobile) clinic:

|   |                                  |
|---|----------------------------------|
| Clinic for Birds and Reptiles                     | 1 van with 8 seats               |
| Clinic for Theriogenology and Ambulatory Services | 2 vans with 5 and 8 seats, resp. |

Table 7.5 shows the approximate number of animals or flocks seen by the ambulatory clinic per year during the past three years.

**Table 7.5**  
**Number of cases seen by the Ambulatory (mobile clinics) in the past three years**

| Species                |                 | Number of patients |       |       | Average |
|------------------------|-----------------|--------------------|-------|-------|---------|
|                        |                 | 2007               | 2006  | 2005  |         |
| Food-producing animals | cattle          | 224                | 221   | 160   | 202     |
|                        | small ruminants | 870                | 830   | 950   | 883     |
|                        | pigs            | 12200              | 11980 | 11950 | 12043   |
| Poultry (no of flocks) |                 | 38                 | 14    | 19    | 24      |
| Equines                |                 | 60                 | 68    | 20    | 49      |
| Alpacas                |                 | 78                 | 93    | 83    | 85      |

### 7.1.9 OTHER INFORMATION

#### **Additional outside sources of material for clinical training purposes**

The Large Animal Clinic for Theriogenology and Ambulatory Services uses the following materials for clinical training purposes:

- genital organs and udders from cattle, pigs and horses collected from slaughterhouses around Leipzig
- dead born calves, lambs, piglets and foals collected in the Oberholz Farm for Teaching and Research.

#### **Level of clinical service offered compared with outside practices**

The level of clinical skills, the expertise of the clinical staff, the broad spectrum of specialization, the premises and the equipment give the Faculty's clinics a high estimation in the region and abroad. This is true for all species, farm animals, horses and companion animals. The level of the facilities, the equipment, the expertise, and the clinical service offered is superior when compared to outside practices, the responsiveness is adequate.

#### **Areas of specialization**

- Department of Small Animal Medicine  
All aspects of internal medicine, orthopaedic and soft tissue surgery and gynaecology of dogs, cats, rabbits, small rodents and small zoo animals including anaesthesiology, cardiology, neurology, oncology, dermatology, ophthalmology, transfusion medicine, laser surgery, clinical laboratory diagnostics, endoscopy, medical imaging (ultrasonography, echocardiography, radiography, CT, MRI) are covered by 9 national and international recognised specialists (2 Dipl. ECV Neurology, 2 Dipl. ECV Anaesthesia and Analgesia, 1 Dipl. ECV Surgery, 1 Dipl. ECV Diagnostic Imaging, 1 Dipl. ECV Internal Medicine, 1 Dipl. ACV Internal Medicine) some of them being specialists in several disciplines.
- Clinic for Birds and Reptiles  
All aspects of internal medicine and surgery of poultry and ornamental birds, reptiles, fish and small exotic animals including herd health management of poultry, diagnostic imaging (radiography, ultrasonography), endoscopy, microbial and parasitological diagnostics, haematology, cytology, gross and microscopic pathology are covered by 3 nationally and internationally recognised specialists (3 Dipl. ECAMS) some of them being specialists in several disciplines.
- Large Animal Clinic of Theriogenology  
All aspects of obstetrical, gynaecological, andrological and neonatal diseases of cattle, small ruminants, swine and horses, udder health, herd health management, fertility control, ultrasonographic pregnancy diagnosis and ovulation control in sows and small ruminants are covered by 4 nationally and internationally recognised specialists (1 Dipl. ECHS) some of them being specialists in several disciplines.
- Large Animal Clinic for Surgery  
All aspects of surgery of horses, cattle, small ruminants, swine, large zoo animals including anaesthesia, laparoscopy and laparoscopic surgery, orthopaedics, arthroscopy and arthroscopic surgery, hoof care and horseshoeing (own blacksmithery), diagnostic

imaging (radiography, scintigraphy, ultrasonography) and endoscopy are covered by 6 national and international recognised specialists (1 Dipl. ECVS, 1 Dipl. ECVS/ACVS) some of them being specialists in several disciplines.

- Large Animal Clinic for Internal Medicine

All aspects of internal medicine of horses, cattle, small ruminants and swine including dentistry, ophthalmology, cardiology, abomasal dislocation surgery, endoscopy, bronchoscopy, ultrasonography, clinical laboratory sciences (clinical chemistry, haematology, cytology as service for the other Large Animal Clinics and referring veterinarians) are covered by 6 national and international recognised specialists (1 Dipl. ECEIM, 2 Dipl. ECBHM, 1 Dipl. ECPHM) some of them being specialists in several disciplines.

### **Indication of the proportion of cases that are primary or referrals**

The high numbers of consultations and referrals as shown in Table 7.6 clearly indicate this estimation by the animal owners and the practitioners. The percentage of referrals is > 70% for horses and for farm animals.

### **Relationship with outside practitioners**

In general, there is a good co-operation with outside practitioners as the Faculty is widely accepted for its referral work and provision of diagnostic and advisory services for private practices. All referred patients are released with a written report intended for the owner and the referring veterinarian. On daily basis veterinarians in the clinics do advisory service by phone on demand.

There is no participation of practitioners from outside in student education except for extramural clinical training as regulated by the TAppV. A feedback on the level of clinical training is obtained by the evaluation of extramural courses asking the instructors for response concerning their impression on the efficacy of students' training (cf. Chapter 5.1.4).

### **Administrative system used for patients and fees for clinical services**

The clinics of the Faculty use commercially available computer-based, veterinary specialised software (VETERA<sup>®</sup> or EasyVet<sup>®</sup>) for central administration. They can be used for individual case-related data recording of history, diagnosis, treatment, writing final reports and invoices. Currently, in the Large Animal Clinics Vetera<sup>®</sup> software is introduced as a common integrated clinic information system.

Fees for clinical services are charged on the basis of the national regulation for veterinary services (*Gebührenordnung für Tierärzte, GOT*). Therefore, fees are generally comparable to those charged by private practitioners.

Table 7.6

## Number of animals received for consultation and percentage of referrals

|   | 2005                | 2006       | 2007       |
|---|---------------------|------------|------------|
|   | <b>total number</b> |            |            |
| <b>Farm / large animals</b>                                   |                     |            |            |
| Large Animal Clinic of Theriogenology and Ambulatory Services |                     |            |            |
| Cattle  | 108                 | 61         | 80         |
| Small ruminants   | 57                  | 34         | 27         |
| Pigs  | 7                   | 7          | 10         |
| Horses  | 142                 | 183        | 176        |
| Other (alpacas, water buffaloes, llamas)                      | 14                  | 14         | 2          |
| Large Animal Clinic or Internal Medicine                      |                     |            |            |
| Cattle  | 457                 | 465        |            |
| Small ruminants   | 24                  | 31         |            |
| Pigs  | 117                 | 151        |            |
| Equines   | 247                 | 271        |            |
| Other (alpacas, water buffalo)                                | 10                  | 13         |            |
| Large Animal Clinic for Surgery                               |                     |            |            |
| Cattle  | 33                  | 18         | 10         |
| Small ruminants   | 11                  | 29         | 25         |
| Pigs  | 11                  | 9          | 6          |
| Equines   | 544                 | 546        | 597        |
| Other (donkeys, camels, llama, alpaca, elephants, zebra)      | 10                  | 9          | 14         |
| Blacksmith  | 650                 | 530        | 644        |
| <b>Small animals, pets</b>                                    |                     |            |            |
| Department of Small Animal Medicine                           |                     |            |            |
| Dogs  | 8318                | 8255       | 8599       |
| Cats  | 2277                | 2490       | 2172       |
| Other (small rodents, rabbits, game animals)                  | 777                 | 888        | 742        |
| <b>% of referrals of total animals received<sup>1)</sup></b>  |                     |            |            |
|   | 9%                  | 8%         | 15%        |
| <b>Clinic for Birds and Reptiles</b>                          |                     |            |            |
| <b>total number / % referrals</b>                             |                     |            |            |
| Birds   | 1928 / 25%          | 2017 / 25% | 2119 / 30% |
| Reptiles  | 990 / 25%           | 1370 / 25% | 1450 / 30% |
| Fish  | 36 / 0%             | 100 / 5%   | 253 / 5%   |

<sup>1)</sup> referrals by letter

## 7.1.10 RATIOS

Table 7.7

**Animals available for clinical training (in the clinics of the Faculty or seen through the Ambulatory clinic) as ratio to the number of students in last full year of clinical training**

|       |  |       |             |
|-------|--|-------|-------------|
|       |  |       | Denominator |
| R 11: | no. of students<br>graduating annually   | 122   | 1           |
|       | no. of food-producing animals<br>seen at the Faculty <sup>1)</sup>               | 821   | 6.73        |
|       |  |       | Denominator |
| R 12: | no. of students<br>graduating annually   | 122   | 1           |
|       | no. of individual food-animal<br>consultations outside the Faculty <sup>2)</sup> | 13294 | 108.96      |
|       |  |       | Denominator |
| R 13: | no. of students<br>graduating annually   | 122   | 1           |
|       | number of herd health  | 360   | 2.95        |
|       |  |       | Denominator |
| R 14: | no. of students<br>graduating annually   | 122   | 1           |
|       | no. of equine cases  | 1061  | 8.70        |
|       |  |       | Denominator |
| R 15: | no. of students<br>graduating annually   | 802   | n.a.        |
|       | no. of poultry cases   | 0     |             |
|       |  |       | Denominator |
| R 16: | no. of students<br>graduating annually   | 122   | 1           |
|       | no. of companion animals<br>seen at Faculty                                      | 16674 | 136.67      |

---

|              |   |                  | Denominator |
|--------------|---|------------------|-------------|
|              | no. of students<br>graduating annually              | 122              | 1           |
| <b>R 17:</b> | <hr/>   | =                | <hr/>       |
|              | Poultry (flocks)/rabbits<br>(production units) seen | 38 <sup>3)</sup> | 0.31        |

---

n.a.: not applicable

<sup>1)</sup> without the animals in the Oberholz Farm for Teaching and Research

<sup>2)</sup> see Table 7.5

<sup>3)</sup> year 2007

**Table 7.8**

**Animals available for necropsy as ratio to the number of students in last full year of clinical training**

|              |  |     |             |
|--------------|--|-----|-------------|
|              |  |     | Denominator |
|              | no. of students<br>graduating annually             | 122 | 1           |
| <b>R 18:</b> | <hr/>  | =   | <hr/>       |
|              | no. necropsies food producing<br>animals + equines | 330 | 2.70        |
| <hr/>        |  |     |             |
|              |  |     | Denominator |
|              | no. of students<br>graduating annually             | 122 | 1           |
| <b>R 19:</b> | <hr/>  | =   | <hr/>       |
|              | no. poultry  | 199 | 1.63        |
| <hr/>        |  |     |             |
|              |  |     | Denominator |
|              | no. of students<br>graduating annually             | 122 | 1           |
| <b>R 20:</b> | <hr/>  | =   | <hr/>       |
|              | necropsies companion animals <sup>1)</sup>         | 886 | 7.26        |
| <hr/>        |  |     |             |

## 7.2 COMMENTS

Extraordinary efforts and expenses are needed for organising materials for each student for the practical work in Food and Meat Hygiene.

The ratio R15 could not be calculated as no poultry are received for consultation and hospitalization by the Faculty clinics. Racing pigeons treated in the Clinic for Birds and Reptiles were categorized as pet birds since these animals are not classified as food-producing animals by the German legislation. The students, however, have access to cases of poultry by the Mobile Clinic.

## 7.3 SUGGESTIONS

Since the denominators are in the respective range no suggestions for improvement are specified.

## Chapter 8

### LIBRARY AND LEARNING RESOURCES

#### 8.1 FACTUAL INFORMATION

##### 8.1.1 LIBRARY

The main library of the Faculty is part of the library system of the University of Leipzig (*Universitätsbibliothek, UB*) regarding ordering of monographs and journals and their cataloguing. The library is a branch of UB and specific to the Faculty with independent acquisition and management of the veterinary literature. The area of concern is in particular specific Veterinary Medicine Sciences and also related topics for the Faculty's learning, teaching and research purposes. The library is located within the campus. In 2008 the library moves from the building of anatomy to the new central building for teaching. The new library with an area of 800m<sup>2</sup> will shelter about 50,000 monographs and 160 print journals. A representative for the library (Professor) who reports directly to the Dean is elected by the Faculty Council and is also member of the central library committee of the University under the direction of the Vice-Rector (*Prorektor*) and the chancellor.

**Table 8.1**  
**Library's budget over the past three years**  
**including financial support by the "Freundeskreis Tiermedizin"**

| Year | Budget in € |
|------|-------------|
| 2005 | 124,500     |
| 2006 | 133,000     |
| 2007 | 162,100     |

|  |        |
|--|--------|
| Number of full-time employees:                       | 1      |
| Full-time equivalents of part time employees         | 1.5    |
| Number of journals received each year as hard copies | 160    |
| Number of full access electronic journals            | 10,000 |
| Number of full access electronic books               | 3,300  |
| Number of loans to students in 2007                  | 23,300 |

The new library provides 65 reading places with two separate rooms, each of them with 6 places. In one of these rooms 6 PC's are available with access to the internet. Another 4 PC's are located in the reading room. Via WLAN private laptops have access to the library system including the OPAC-catalogue and several databases (Pubmed, CAB Abstracts, Online Contents, Web of Science, Scopus etc.) and the internet. For a complete list of the databases it is referred to the following website: [http://rzblx10.uni-regensburg.de/dbinfo/dbliste.php?bib\\_id=ubl&colors=127&ocolors=40&lett=c&collid=VE](http://rzblx10.uni-regensburg.de/dbinfo/dbliste.php?bib_id=ubl&colors=127&ocolors=40&lett=c&collid=VE). All these services for online literature search are available within the whole campus of the university including

the student hostels. Additionally, an access to online services of the library can be realized via VPN.

About 80% of the 50,000 monographs are available in the library and the remaining books are located in the particular institutes and clinics (reference libraries) but catalogued (OPAC) and lendable for students after permission of the head of department.

Library opening hours are Monday to Friday from 9 a.m. to 6 p.m. during the entire year. The library is frequently used by the students and the employees of the Faculty (more than 6,000 registered visitors per year and an average of loans of 85 volumes per day).

#### Subsidiary libraries of the Faculty

As mentioned above, only the reference library of a professor with a maximum of 200 books per professorship is located at the institutes. These books are also catalogued in the OPAC-system.

### 8.1.2 INFORMATION TECHNOLOGY SERVICES

The Faculty is connected with the computer centre of the University of Leipzig (*Universitätsrechenzentrum, URZ*). Provision and administration of the Faculty's server and user database facilities is organised by the Faculty by a contract with an external IT-expert.

On the campus of the Faculty 35 computers with internet connections are available to the students for interactive computer-assisted learning. The location of the student workplaces and the opening hours are shown in Table 8.2.

**Table 8.2**  
**Computer workplaces for students and opening hours**

| <b>Computer Cabinets</b>            | <b>No. of workplaces</b> | <b>Opening hours<br/>Monday to Friday, all year</b> |
|-------------------------------------|--------------------------|---|
| Central Building for Technology     | 20                       | 7:30 a.m. to 8:00 p.m.                              |
| Library                             | 10                       | 9:00 a.m. to 6:00 p.m.                              |
| Department of Small Animal Medicine | 5                        | 7:30 a.m. to 4:00 p.m.                              |

The students have further access to the computer pool of the URZ as well as to specific computer-based teaching resources in various institutes and clinics of the Faculty.

The PC pool for students was financed by the Freundeskreis Tiermedizin der Veterinärmedizinischen Fakultät Leipzig e.V. The computer pool is not based on classic PC systems, but on so-called ThinClients, providing the connection with the terminal server. The programs run on this server and it also delivers the screen output back to the ThinClient. To login all students receive a Windows password which is saved on their UniCard and can be accessed via the UniCard terminal.

Following login the students can use the following applications:

- Internet access via Microsoft Internet Explorer 6.0
- Microsoft Office 2003 Professional (including Word, Excel, PowerPoint, Outlook)
- Adobe Acrobat 6.0 Professional (reading and creating PDF files)
- Online access to the resources of the university library
- Teaching platform Moodle

100 MB permanent memory spaces are available to every student. The students can download documents/data from the PC pool for use at home via USB-memory stick. They can further access their saved data from any PC outside with internet access via Web Browser.

The teaching platform Moodle of the University of Leipzig has been set up at the Faculty with the introduction of the new curriculum in the winter term 2007/2008. Moodle facilitates the communication between teachers and students and supports self-directed and interactive computer-assisted learning. It is now broadly used for modular teaching providing all relevant informations and the teaching materials of the modules to the students.

## **8.2 COMMENTS AND SUGGESTIONS**

### **Library**

After finishing the new lecture building and the relocation of the library, the situation concerning the available space for working places for the students will be much better, although additional PC's would be desirable. The annual costs for the different journals and their advance in prices is of special concern. Although in the last years (since 2002) more than 50 subscriptions to journals were stopped, the budget is nearly utilized. A great facilitation is now the possibility to subscribe articles from scientific journals to Subito<sup>®</sup> and that the costs for this service are financed by the central library of the university. The direct online access to databases and scientific journals for literature retrieval is of great advance and an enlargement of these services would be desirable.

### **IT-Facilities**

The IT-Facilities on the campus and the accessibility by students provide an appropriate basis for e-learning which is increasingly used. Most of the students have a private access to the internet. The quality of electronically available teaching material for e-learning is improving. The Department of Small Animal Medicine and the Institute of Pathology have implemented digital image data pools of case-related diagnostic imaging or of pathohistological specimens which can be used for computer-based self-directed learning. The students have also free access to the electronic information system on all veterinary drugs and drug legislation for veterinarians (VETIDATA) of the Institute of Pharmacology, Pharmacy and Toxicology. Currently, in the Large Animal Clinics a common integrated clinic information system with an electronic health record is introduced as an administrative and accounting tool.

## Chapter 9

### STUDENT ADMISSION AND ENROLMENT

#### 9.1 UNDERGRADUATE COURSES

##### 9.1.1 UNDERGRADUATE STUDENT NUMBERS

**Minimum number of years (MNY) allowed to successfully completing the curriculum:**

**MNY: 5.5 years**  
(including the time for the final examination)

**Table 9.1**

**Undergraduate student composition in year prior to visitation**

|  |     |
|--|-----|
| Total number of undergraduate students | 802 |
| Total number of male students          | 112 |
| Total number of female students        | 690 |
| Foreign students                       | 11  |
| - from EU countries                    | 4   |
| - from non-EU countries                | 7   |

Winter term 2007/2008

##### 9.1.2 STUDENT ADMISSION

###### Minimum admission requirements

In Germany, the minimum admission requirement for studies of veterinary medicine is a higher school-leaving examination after 12/13 school years qualifying for enrolment at a university (*Abitur*).

###### Limit to number of students admitted each year

As veterinary medicine is a so-called "Numerus clausus" discipline, the number of applicants is higher than the number of student places available at all Veterinary Schools of Germany.

Currently the number of students admitted per year at the Veterinary Faculty in Leipzig is limited to about 150. This number is calculated according to the rules of the Capacity Regulation (*Kapazitäts-Verordnung*) which is mandatory for all Veterinary Schools in Germany. The number may change yearly since it is based on number of academic staff. No extra students can be admitted owing to the capacity limitation. All student places at the Veterinary Faculty of Leipzig are government-funded as there are no tuition fees at the public universities of Saxony.

### Selection Procedure of Candidates

Among the applying candidates the students to be admitted at the Veterinary Faculty in Leipzig are selected by the following procedure:

Candidates for academic training in Veterinary Medicine apply at the ZVS (*Zentralstelle für die Vergabe von Studienplätzen*) in Dortmund. 40 % of all student places are directly allocated to applicants by this federal institution according to the criteria of ZVS (*numerus clausus*, hardship cases, list of applicants from previous years). Universities are allowed to define their own criteria to select the remaining 60 % of students from the pool of candidates.

The Veterinary Faculty of the University Leipzig has decided to apply the following selection criteria:

- Decision of candidates for University Leipzig as first choice
- Average final school grade exam of 2.5 (on a scale of 1 to 6; 1 being the best mark)

The school-leaving grade is weighed as follows:

Exam results in school subjects of natural science (biology, chemistry, physics) of the final 2 years are awarded a bonus of 50 % if selected as 1<sup>st</sup> and/or 2<sup>nd</sup> final school exam subject (intensive course) and of 25 % in case of basic courses. School marks in mathematics are awarded a bonus of 25 % irrespective of the quality of the course.

Based on the calculated weighed school exam results a rank list is produced. The first contingent of 80 % of student places to be allocated by the faculty is directly attributed to candidates according to their rank position. The remaining 20 % are distributed to the candidates following in the rank list after an interview with a faculty commission. For each student place three candidates are invited to the interview. The commission consists of two professors and one lecturer/senior lecturer.

Until 2004 students were selected only according to their average final school exam grade without participation of the university ("*Numerus clausus*"), temporarily supplemented by up to 25 % of enrolments based on an interview. Introduction of the new more stringent model in 2006 resulted in a decrease of the total number of applications at ZVS (Table 9.2.2).

**Table 9.2.1:**

#### Intake of veterinary students in the past five years

| Year  | Number applying | Number admitted |
|-------|-----------------|-----------------|
| 2007* | see Table 9.2.2 | 140             |
| 2006* |                 | 152             |
| 2005* |                 | 152             |
| 2004  | 822             | 158             |
| 2003  | 678             | 154             |

\*) new enrolment procedure

**Table 9.2.2****Number of applying and admitted students in the past three years under the new selection procedure**

(according to ZVS information)

Availability of student places (140-152 = 100 %) is allocated to three categories:

- 1) best final school exam = 20 %
- 2) list of applicants from previous years = 20 % ("waiting list")
- 3) selection of candidates according to university criteria = 60 %

|                   | 2005                    |             | 2006                    |            | 2007                    |            |
|-------------------|-------------------------|-------------|-------------------------|------------|-------------------------|------------|
|                   | applicants/<br>admitted | ratio       | applicants/<br>admitted | ratio      | applicants/<br>admitted | ratio      |
| Category 1        | 828/26                  | 32:1        | 726/25                  | 29:1       | 783/23                  | 34:1       |
| Category 2        | 796/34                  | 23:1        | 775/35                  | 22:1       | 755/33                  | 23:1       |
| <b>Category 3</b> | <b>1221/92</b>          | <b>13:1</b> | <b>814/92</b>           | <b>9:1</b> | <b>796/84</b>           | <b>9:1</b> |
| Total             | 2845/152                | 19:1        | 2315/152                | 15:1       | 2334/140                | 17:1       |

Note: candidates may simultaneously apply at all five faculties in Germany in graded priority (1-5). Only first priority choices are considered in the table.

The number of candidates fulfilling the current faculty conditions (average final exam grade of 2.5 and Leipzig as preferred choice) and thus entering the faculty selection procedure is lower than depicted in Table 9.2.2. In the year 2006 a total of 499 category 3 applicants competed for the 92 available study places (ratio of 5.4 : 1) followed by 560 applicants for 84 study places in 2007 (ratio of 6.7 : 1) and 554 for 89 in 2008 (ratio of 6.2 : 1). The ratio of qualified to successful applicants of approximately 6 : 1 reflects the continuously high attractiveness of Veterinary Medicine and of Leipzig as the place of study. This is in line with the Faculty's intention to maintain by applying stringent selection criteria a sufficiently high number of qualified applicants and not necessarily to increase the total number.

### 9.1.3 STUDENT FLOW

Table 9.3 establishes to what extent students make progress in their studies. Of the 153 students admitted in 2002 the majority made progress in due time (*Regelstudienzeit*) and was graduated after the MNY of 5.5 years. 23 students dropped out for various reasons (e.g. 12 final fails in examination, 8 changes to another university). 17 out of this 23 drop-outs were replaced by additional admission of students.

**Table 9.3:**

**Student flow and total number of undergraduate veterinary students**

| Number of students present after admitted in 2002 | 153  | Number of additionally admitted students |
|---|------|--|
| 1st year <sup>1)</sup>                            | 0    |  |
| 2nd year  | 0    | 2  |
| 3rd year  | 0    | 15                                       |
| 4th year  | 0    |  |
| 5th year  | 8    |  |
| 6th year  | 129* |  |
| > 6th year (admitted before 2002)                 | 10*  |  |
| number undergraduate veterinary students          | 8    |  |

\*) graduated until April 2008

**Table 9.4:**

**Number of students graduating annually over the past five years:**

| Year         | Number graduating |
|--------------|-------------------|
| N = 2007     | 122               |
| N – 1 (2006) | 147               |
| N – 2 (2005) | 122               |
| N – 3 (2004) | 139               |
| N – 4 (2003) | 123               |
| average      | 131               |

**Table 9.5:**

**Average duration of studies (distribution of students in years graduated in 2007)**

| Duration of attendance | Number |
|------------------------|--------|
| 6 years <sup>1)</sup>  | 108    |
| 7 years                | 12     |
| 8 years                | 1      |
| 9 years                | 1      |
| 10 years and more      | 0      |

<sup>1)</sup> Includes students graduating after 5.5 and 6 years

## Requirements for progression and obliging students to leave

According to TAppV and the amending rules for Teaching and Examination of the Faculty, the students can only participate in the courses of the following semester, if they have passed the foregoing examinations as outlined in Chapter 5.1.3.

As regulated by § 17 TAppV a maximum of two retakes of an examination is possible. In the case of fail in the 2<sup>nd</sup> retake the student has to leave the Faculty and cannot continue or resume the study of veterinary medicine at a German university.

## 9.2 COMMENTS

The German federal education system with varying requirements results in differing levels of natural scientific knowledge and skills of students admitted to the universities.

By implementing the new selection process for the admission of students, the Faculty is convinced that the selection criteria currently applied will help to improve the quality of our students. Veterinary Medicine is strongly related to natural science and a basic knowledge in respective subjects is a prerequisite for successful learning. Moreover, the current school system in Germany allows learners to select certain main subjects as intensive courses, e.g. a language, social sciences, natural sciences etc. This may have a profound effect on the final exam grades and may lead to a situation where candidates who have decided for intensive courses in natural sciences may face a handicap at application for university education in Veterinary Medicine (due to on average inferior grades in the exams) in comparison to those who have decided for other main subjects. The model of our Faculty is thought to at least partially reverse this unfavourable scenario.

The University of Leipzig has no means to influence and guide the number and gender of students admitted as the factors determining the numbers of student places are defined by legislation.

The high number of students graduating in due time reflect the ability of the Faculty to adequately train the existing number of students. This is mainly the result of the efforts made by the students and the teaching staff.

Progress made by the students in their studies is good. More than 95% of the students admitted graduate. More than 90% of the students graduate within the "Regelstudienzeit" of 5.5 years. Compared to other faculties of the University of Leipzig a larger proportion of students graduate in due time. An important tool to maintain the satisfactory progress is the strict regulation according to TAppV and the amending rules for Teaching and Examination of the Faculty allowing the students to only participate in the courses of the following semester, if they have passed the foregoing examinations as outlined in Chapter 5.1.3. Yet additional efforts are required to alleviate the budget restrictions for teaching materials.

## Chapter 10

### ACADEMIC AND SUPPORT STAFF

#### 10.1 FACTUAL INFORMATION

Owing to the structure of the universities in Germany no clear distinction between teaching staff and research staff can be made. The budgeted academic staffs are required to work in teaching, research and service. They are obliged by law (Saxon Regulation on Duties at Universities, DAVOHS) to perform a minimum of 4-8 hours of teaching per week (without preparation time for teaching). Teaching personnel in clinical and para-clinical sciences are granted a 30% reduction of teaching obligations owing to their responsibilities in patient care and diagnostics. In general, the actual teaching load of the academic staff of the Faculty exceeds the minimum requirements. Thus, all budgeted posts of academic staff are listed under teaching staff. The figures listed under research staff only refer to those persons who are contracted through grant money.

The figures do not contain the staffs from central administration of the university supporting the Faculty who are not members of the Faculty's staff. Accordingly, staff from institutes outside the Faculty involved in teaching is not considered.

Table 10.1

Personnel in the establishment provided for veterinary training <sup>1</sup>

|   | Budgeted posts (FTE) |     | Non-budgeted posts (FTE) |     | Total (FTE)   |     |
|---|----------------------|-----|--------------------------|-----|---------------|-----|
|   | VS                   | NVS | VS                       | NVS | VS            | NVS |
| <b>1. Academic staff</b>  |                      |     |                          |     |               |     |
| Teaching staff (total FTE)  |                      |     |                          |     |               |     |
| Research staff (total FTE)  |                      |     |                          |     |               |     |
| Others (please specify) (FTE)   |                      |     |                          |     |               |     |
| Total FTE   | 95                   | 9   |                          |     |               |     |
| Total FTE (VS + NVS)  | 104                  |     | 29.08 <sup>3</sup>       |     | 131.08        |     |
| FTE providing last year teaching  | 104 <sup>2</sup>     |     |                          |     |               |     |
| <b>2. Support staff</b>   |                      |     |                          |     |               |     |
| a) responsible for the care and treatment of animals  | 26.25 <sup>4</sup>   |     | 3.75                     |     | 29.50         |     |
| b) responsible for the preparation of practical and clinical teaching and research (according to d) | 65.50 <sup>5</sup>   |     | 10.60                    |     | 76.10         |     |
| c) responsible for administration, general services, maintenance, etc. <sup>6</sup>                 | 26.75                |     | 0.25                     |     | 27.00         |     |
| d) engaged in research work   | listed under b)      |     |                          |     |               |     |
| e) others (apprentices)   | 25.00                |     | 0                        |     | 25.00         |     |
| Total support staff   | 143.50               |     | 14.60 <sup>7</sup>       |     | 157.60        |     |
| <b>3. Total staff</b>   | <b>247.50</b>        |     | <b>43.68</b>             |     | <b>288.68</b> |     |

FTE: Full time equivalent VS: Veterinary surgeon NVS: Non-veterinary surgeon

<sup>1</sup>) Data of July 2008

<sup>2</sup>) All academic personnel is responsible for teaching as well as for services and research

<sup>3</sup>) Research staff on non-budgeted posts paid for with money

<sup>4</sup>) Includes 0.5 FTE of blacksmith

<sup>5</sup>) Includes 1 FTE of blacksmith

<sup>6</sup>) Includes the institutional secretaries and the staff of the central administration of the Faculty

<sup>7</sup>) Support staff on non-budgeted posts paid for with money of third-party grants or of revenues by services

Table 10.2

Allocation of academic (veterinary surgeon and non veterinary surgeon) teaching staff – expressed as FTE – and support staff to the various departments <sup>1</sup>

| Institution   | Budgeted Posts    |                   |                               |                                | Non-budgeted posts |                  |
|---|-------------------|-------------------|-------------------------------|--------------------------------|--------------------|------------------|
|   | Profs             | Scien-<br>tists   | Techni-<br>cians <sup>2</sup> | Admini-<br>strat. <sup>3</sup> | Scien-<br>tists    | Techni-<br>cians |
| Institute of Anatomy,<br>Histology, Embryology                        | 2.00 V            | 4.00 V<br>2.00 NV | 5.50                          | 1.00                           | 0                  | 0                |
| Institute of Physiology   | 2.00 V            | 3.67 V            | 5.50                          | 1.00                           | 1.00               | 0.25             |
| Institute of Physiological<br>Chemistry                               | 2.00 V            | 1.00 V<br>2.00 NV | 5.50                          | 0.75                           | 0.5                | 2.00             |
| Institute of Immunology   | 2.00 V            | 1.00 V<br>2.00 NV | 1.50                          | 1.00                           | 1.50               | 1.00             |
| Institute of Bacteriology<br>and Mycology                             | 1.00 V            | 3.00 V            | 3.75                          | 0.50                           | 2.00               | 0.55             |
| Institute of Virology   | 1.00 V            | 2.00 V            | 3.00                          | 1.00                           | 1.00               | 0                |
| Institute of Parasitology   | 1.00 V            | 3.00 V            | 4.00                          | 0.50                           | 3.00               | 0.30             |
| Institute of Animal<br>Hygiene and Veterinary<br>Public Health        | 2.00 V            | 3.00 V            | 4.00                          | 1.00                           | 3.00               | 0                |
| Institute of Animal<br>Nutrition, Nutrition<br>Diseases and Dietetics | 1.00 V            | 3.00 V<br>1.00 NV | 4.00                          | 1.00                           | 0                  | 0                |
| Institute of Pharma-<br>cology, Pharmacy and<br>Toxicology            | 1.00 V<br>1.00 NV | 3.00 V<br>1.00 NV | 4.00                          | 1.00                           | 1.80               | 0                |
| Institute of Food Hygiene   | 2.00 V            | 5.50 V            | 6.75                          | 1.00                           | 3.63               | 2.00             |
| Institute of Pathology  | 2.00 V            | 6.00 V            | 7.75                          | 1.50                           | 0                  | 0.25             |
| Department of Small<br>Animal Medicine                                | 3.00 V            | 7.00 V            | 8.25                          | 2.00                           | 7.25               | 4.75             |
| Clinic for Birds and<br>Reptiles                                      | 1.00 V            | 2.83 V            | 1.50                          | 0.50                           | 2.41               | 3.00             |
| Large Animal Clinic for<br>Internal Medicine                          | 3.00 V            | 6.00 V            | 8.25                          | 2.00                           | 1.49               | 0                |
| Large Animal Clinic for<br>Surgery                                    | 1.00 V            | 6.00 V            | 10.50                         | 1.00                           | 0.50               | 0.50             |

|  | Budgeted Posts                   |                                  |                               |                                | Non-budgeted posts |                  |
|--|----------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------|------------------|
| Institution  | Profs                            | Scien-<br>tists                  | Techni-<br>cians <sup>2</sup> | Admini-<br>strat. <sup>3</sup> | Scien-<br>tists    | Techni-<br>cians |
| Large Animal Clinic for<br>Therionology and<br>Ambulatory Services | 2.00 V                           | 6.00 V                           | 8.00                          | 2.00                           | 0                  | 0                |
| <b>Sub-total</b>   | <b>29.00 V</b><br><b>1.00 NV</b> | <b>66.00 V</b><br><b>8.00 NV</b> | <b>91.75</b>                  | <b>18.75</b>                   | <b>29.08</b>       | <b>14.60</b>     |
| <b>Total</b>   | <b>104</b>                       |                                  | <b>110.50</b>                 |                                | <b>43.68</b>       |                  |

FTE: Full time equivalent      V: Veterinary surgeon    NV: Non-veterinary surgeon

<sup>1</sup>) Data of July 2008

<sup>2</sup>) Includes animal care technicians

Without apprentices

<sup>3</sup>) Includes the institutional secretaries

Tab. 10.3

## Ratios students/staff

|      | Ratio  |                          | Denominator      |
|------|--|--------------------------|------------------|
| R 1: | $\frac{\text{no. total FTE in veterinary training}}{\text{no. undergraduate veterinary students}}$                                 | $= \frac{195.75}{802} =$ | $\frac{1}{4.10}$ |
| R 2: | $\frac{\text{no. of total FTE at Faculty}}{\text{no. undergraduate students at Faculty}}$  | $= \frac{288.68}{802} =$ | $\frac{1}{2.78}$ |
| R 3: | $\frac{\text{no. VS FTE in veterinary training}}{\text{no. undergraduate veterinary students}^{2)}$                                | $= \frac{96}{802} =$     | $\frac{1}{8.35}$ |
| R 4: | $\frac{\text{no. VS FTE in veterinary training}}{\text{no. students graduating annually}}$   | $= \frac{96}{129} =$     | $\frac{1}{1.34}$ |
| R 5: | $\frac{\text{no. total FTE academic staff in veterinary training}}{\text{no. total FTE support staff in veterinary training}^{1)}$ | $= \frac{104}{91.75} =$  | $\frac{1}{0.88}$ |

<sup>1)</sup> Without the institutional secretaries

**Allocation of staff**

The allocation of staff to the Faculty is based traditionally on the structural decisions made by the university and the Saxon Ministry of Science and the Arts at re-founding of the Faculty in 1990. Since that time the staff number was subject of some shortage owing to reduced public funding of the Saxon universities. According to the Saxon University Law, the Rector's Office of the University determines the allocation of staff within the university.

Any decision upon staff allocation is made by Dean after hearing the Faculty Council. The allocation of staff within the Faculty depends on the requirements of the institution as determined by the factors of teaching load, research and services. Basically, the allocation to the institutes and clinics is a constant factor. Whenever structural questions are touched, the Committee of Structural Development and Faculty Council have to be heard. The income from service can be used for additional employment without limitations.

**Difficulties in recruiting or retaining staff**

Since 2005 more flexibility has been granted by negotiations between newly appointed professors and university with respect to salary. In some disciplines, however, it is still difficult to recruit qualified persons for professorships. This is especially true for clinical institutions. Sometimes it is also difficult to fill position with qualified academic staff (e.g. veterinarians with the status of diplomates) and to retain them. The salary structure of academic staff in public service is less attractive compared to industry posts or to the payment in various countries in Western Europe and the USA whereas the payment is higher when compared to respective posts in veterinary practice. Furthermore, the limitation of maximum 12-year staying period for academic staff at a university (with exception of most professors and some tenure tracks) is another disincentive. Therefore applications of qualified academic employees for outside jobs are not uncommon.

**Trends and changes in staff levels**

The staff level (paid by university) is strictly fixed. Over the last ten years it has not been changed significantly.

There is a Saxon regulation concerning the handling of income from private activities of professors. It includes the obligation to inform employer, conditions of permission, use the facilities, materials as well as personnel, the percentage of overheads and the information about the amount of such income. The private activity must be permitted by the dean and the rector.

The Faculty supports the attendance of academics at scientific meetings. It is generally financed by additional income from service or research projects.

According to the Saxon regulation a sabbatical may be taken in a frequency of 7 semesters for a period of 1 semester. The salary continues. After finishing a report must be presented. During sabbatical, the obligations must be fulfilled by the remaining personal.

## 10.2 COMMENTS

The Faculty faces a critical shortage of animal care technicians (as high as 10 positions) with strong deficiencies being felt in the Department of Small Animal Medicine and the total absence of those positions in several institutes. The university has acknowledged this uncomfortable situation but has not come forward to alleviate the situation. The Faculty tries to partly compensate the deficiencies by deferring positions from technical support staff and by tutors.

95 out of 104 academic staff members (91%) are veterinary surgeons. Of 30 professors, one is a natural scientist (Biology). The other 8 non-veterinarian staff members are natural scientists of various disciplines (1 agronomist, 3 biologists, 1 biochemist, 3 chemists). The proportion of non-veterinarians in the non-budgeted academic staff is higher (about 20%). The proportion of about 90% veterinarians and 10% non-veterinarians reflects the multidisciplinary approach in teaching and research with main focus clinical veterinary aspects and veterinary public health.

## Chapter 11

### CONTINUING EDUCATION

#### 11.1 FACTUAL INFORMATION

The Faculty of Veterinary Medicine offers education programs since 1990 which profit from the close cooperation with the State Veterinarians Chambers (*Tierärztekammern*) of Saxony, Saxony-Anhalt and Thuringia. On the one hand continuing education programs are part of the general continuing education of veterinarians as required by the Occupational Regulations; on the other hand they are part of the qualification in Fachtierarzt (veterinary specialist) training or in acquiring additional occupational titles. Previous events focused on small and domestic animals, birds, reptiles, horses, the veterinarian's care in equestrian events, food, milk and meat hygiene, as well as acupuncture. A highlight of the Faculty of Veterinary Medicine is the Leipzig Veterinarians' Convention, which is organised in close cooperation with *the Leipziger Messe* (Leipzig Fair) and several veterinary chambers.

#### **Leipzig Veterinarians' convention (*Leipziger Tierärztekongress*)**

The strong commitment to continuing education and the vital interest of the Faculty in a good relationship to practicing veterinarians as well as to professional organisations were the reasons to organise the Leipzig Veterinarians' convention.

The Leipzig Veterinarians' convention concentrates the efforts and responsibilities of the University and the State Veterinary Chambers of Brandenburg, Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt, and Thüringen for continuing education. In 2008, the "Bundesverband für praktische Tierärzte" (BpT) was additionally associated. In 2010, the "Deutsche Veterinärmedizinische Gesellschaft" (DVG) representing more than 5000 Veterinarians in Germany, will be a further organizing partner. By this, a very broad cooperation between all East German State Veterinary Chambers and professional organisations is established and ensures the close contact between the faculty and the veterinarians and the transfer of knowledge.

The first meeting of the convention was held in 1998. Since that time the convention showed continuous increase as regards both participants and number of talks and courses. The second convention took place in 2002 and attracted about 860 participants. In the fourth convention (January 17 to 19, 2008), the number of participants further increased to 2150. Over 250 lectures were presented by 209 speakers. Concerning the number of participants and of lecturers, the Leipzig convention is now the leading veterinary congress in Germany.

The good reception is probably due to various reasons. One may be the readiness to present contradictory topics. At the 4th convention, the "Killing of Animals" was a topic discussed intensively. A second reason may be that we tried to cover a wide range of topic but to focus on special problems. For example, within the main topic Dog/Cat, the chronically ill patient was dealt with at the convention in 2008. Within the main topic Ruminants, reasons for

selection were discussed. Within the main topic Pharmacology, we discussed the problem of doping in equine athletes in comparison to humans.

This structure enables us to reach not only practitioners, but also the colleagues working in the research field and in the organisations of public health.

Several awards are given during the congress. The “Leipziger Innovationspreis für Tiermedizin” includes prize money of 2.500 Euros. It should be given to young colleagues who are able to transfer theoretical knowledge into practise. Other organizations like the “Akademie für Tiergesundheit” (AfT) also use the congress as a surrounding for giving prizes and awards.

From the beginning, the cooperation with our partners was very efficient. The State Veterinary Chambers mediate the interrelationships within the colleagues outside the faculty. The Leipziger Messe GmbH has been a competent and communicative partner, providing the “know how” for the organisation as well as the facilities of the Congress Centre Leipzig. It also organises the accompanying industrial fair. The success of the 4th convention convinced the partners to conduct the convention every two years. Therefore, the next convention will take place January, 21-23, 2010.

We decided to keep the species oriented presentation of the topics but we want to exceed the part of exotic animals and zoo animals, especially primates. Additionally, we want to offer an education in soft skills, for example communication skills. We expect a further extension in the number of lectures. In cooperation with the Leipziger Messe GmbH we are preparing a modified concept for housing more participants.

## **Courses**

The following Tables refer to major courses organised by institutions of the Faculty. Some of the courses were part of the Leipzig Veterinarians’ convention or of the courses of veterinary specialization listed in Table 11.3.

Table 11.1

## Courses organised by Faculty institutions in 2006

| Title of course   | Number of participants | Total number of hours |
|---|------------------------|-----------------------|
| Recent aspects and new developments in treatment of mastitis)   | 80                     | 7                     |
| Subclinical reproductive disorders in cattle  | 80                     | 6                     |
| Continuing education in reproduction in ruminants for practitioners:  |                        | 20                    |
| Continuing education in reproduction in swine for practitioners:  |                        | 10                    |
| Gynaecology in brood mares  | 20                     | 5                     |
| Sedation, analgesia, local anaesthesia and anesthesia under field condition in the horse  | 26                     | 10                    |
| Ultrasonography in horses   | 50                     | 16                    |
| Infection diseases of ruminants   | 200                    | 3                     |
| Management of cows with high production capacity  | 200                    | 6                     |
| Continuing education for equine practitioners: Anaesthesia  |                        | 28                    |
| Continuing education for equine practitioners: ultrasonography / equine surgery   |                        | 45                    |
| DVG-Tagung, Leipzig   |                        |                       |
| Postgraduate course for small animals   |                        | 170                   |
| Seminar on ultrasonography  | 16                     |                       |
| Conference „Entwicklung einer technischen Verfahrenslösung zur nachhaltigen Keimreduktion, insbesondere von Zoonoseerregern, bei Hühnereiern mittels ozonhaltiger Medien“, - Reduction of zoonosis with ozone | 20                     | 6                     |
| Food and Meat Hygiene   | 58                     | 32                    |
| Diagnosis, treatment and prophylaxis of abomasal displacement in dairy cows.  | 32                     | 11                    |
| Interpretation of clinical laboratory data in relation to herd health management in ruminants, swine, horses  | 40                     | 10                    |
| Important case reports of horses, ruminants, pigs   | 45                     | 3                     |
| Continuing education in pig medicine for practitioners:   |                        | 10                    |
| Continuing education in horse medicine for practitioners  |                        | 35                    |
| Continuing education in medicine in ruminants for practitioners   |                        | 72                    |
| Diseases of lung, liver, kidney, forestomach, gut, skin   | 30                     | 16                    |
| Courses for European Colleges   |                        |                       |
| ECBHM   | 50                     | 12                    |
| ECBHM   | 45                     | 12                    |
| ECEIM   | 231                    | 12                    |
| ECPHM   | 30                     | 2                     |
| Course of veterinary specialisation in Turingia (Cattle)  |                        | 5                     |
| Workshop: Coccidiosis in cattle   | 40                     | 6                     |
| International Symposium on Stallion reproduction  | 250                    | 15                    |
| Schnittseminar DVG-Fachgruppe Pathologie – Seminar on preparation of histological slides  | 140                    | 10                    |
| Pferdeheilkunde Curriculum, Equine reproduction   | 120                    | 10                    |
| ECVP  | 15                     | 10                    |
| DVG-Fachgruppe Physiologie/Biochemie  | 150                    | 18                    |
| Course for the European College of Veterinary and Comparative Nutrition (Residents class of the ECVCN)  | 25                     | 6                     |
| International Parvovirus Meeting 2005   | 100                    | 14                    |
| Course of veterinary specialisation (Food hygiene) in Saxony  |                        | 2                     |
| Course on aviary and wild birds   | 22                     | 40                    |

**Table 11.2**  
**Courses organised by Faculty institutions in 2007**

| <b>Title of course</b>   | <b>Number of participants</b> | <b>Total number of hours</b> |
|--|-------------------------------|------------------------------|
| Gynaecology in brood mares   | 20                            | 5                            |
| Ultrasonography in horses  | 50                            | 16                           |
| Continuing education for equine practitioners: farriery and hoof disease   |                               | 20                           |
| Continuing education in bovine orthopaedics and lameness   |                               | 40                           |
| 3rd World Congress on Regenerative Medicine  | 600                           | 15                           |
| Nutrition of dog (Animal Nutrition)  | 25                            | 4                            |
| AVA Tagung, Leipzig  |                               |                              |
| Course on small animals  |                               | 170                          |
| Radiology  |                               |                              |
| Professional training for the staff of the Saxonian Veterinary Public Health Service   | 31                            | 6                            |
| Press conference about health aspects of milk and milk products, Institute of Food Hygiene   | 33                            | 6                            |
| Food and Meat Hygiene  | 62                            | 36                           |
| Diagnosis, treatment and prophylaxis of abomasal displacement in dairy cows  | 38                            | 11                           |
| Interpretation of clinical laboratory data in relation to herd health management in ruminants, swine, horses   | 45                            | 10                           |
| Important case reports of horses, ruminants, pigs  | 50                            | 3                            |
| Continuing education in pig medicine for practitioners   |                               | 10                           |
| Continuing education in horse medicine for practitioners   |                               | 35                           |
| Continuing education in medicine in ruminants for practitioners  |                               | 72                           |
| Metabolic diseases in dairy cows   | 30                            | 16                           |
| ECBHM  | 51                            | 12                           |
| ECEIM  | 76                            | 10                           |
| ECEIM  | 84                            | 10                           |
| ECPHM  | 50                            | 3                            |
| Continuing education of Veterinary Assistants: Parasites of carnivores   | 40                            | 4                            |
| International conference on Equine reproduction  | 250                           | 15                           |
| 4 <sup>th</sup> Leipzig Expert workshop on Equine Reproductive Medicine  | 40                            | 14                           |
| Seminar on preparation of histopathological slides   | 140                           | 10                           |
| Arzneimittel – Impfstoffe – Futtermittel; Einsatz in Nutztier-, Pferde- und Kleintierpraxis nach den neuen Rechtsvorschriften - Legislation of Drugs, sera and feeding stuff and their application | 85                            | 7                            |
| Arzneimittel – Impfstoffe – Futtermittel; Einsatz in Nutztier-, Pferde- und Kleintierpraxis nach den neuen Rechtsvorschriften – Legislation of Drugs, sera and feeding stuff and their application | 80                            | 7                            |
| European Intestinal Transport Group, Congress  | 103                           | 25                           |
| 11 <sup>th</sup> Congress of the European Society of Veterinary and Comparative Nutrition  | 180                           | 4                            |
| Feed legislation in the EU   | 35                            | 4                            |
| Course for the European College of Veterinary and Comparative Nutrition (Residents class of the ECVCN)   | 18                            | 16                           |
| Course of veterinary specialisation (Food hygiene) in Saxony   |                               | 2                            |
| Course of veterinary specialisation (pig) in Saxony-Anhalt   |                               | 2                            |
| Lehrgang Fachtierarzt „Lebensmittelhygiene“ und „Fleischhygiene und Schlachthofwesen“ Course on food hygiene   |                               | 20                           |
| Diagnostic on birds  | 24                            | 12                           |
| Course on reptiles   | 29                            | 40                           |
| ECAMS  | 40                            | 4                            |

**Table 11.3****Courses for Veterinary Specialization in 1998 - 2008**

By cooperation between of the Faculty of Veterinary Medicine Leipzig and the Saxon Veterinarians Chamber

| Course  | Year        | Hours | Number of Participants |
|---|-------------|-------|------------------------|
| 1 <sup>st</sup> Course on the quality and hygiene management in food production | 1998        | 40    | 67                     |
| 1 <sup>st</sup> Course on acupuncture   | 1999 – 2000 | 80    | 28                     |
| 3 <sup>rd</sup> Course on food and meat hygiene                                 | 1999 – 2000 | 150   | 24                     |
| 1 <sup>st</sup> Course on small animal medicine                                 | 2000 – 2002 | 170   | 77                     |
| 1 <sup>st</sup> Course on equine medicine                                       | 2001 – 2003 | 200   | 48                     |
| 1 <sup>st</sup> Course on reptiles  | 2002 – 2003 | 40    | 37                     |
| 2 <sup>nd</sup> Course on small animal medicine                                 | 2002 – 2004 | 170   | 89                     |
| 4 <sup>th</sup> Course on food and meat hygiene                                 | 2003 – 2005 | 180   | 37                     |
| 1 <sup>st</sup> Course on poultry   | 2004        | 40    | 22                     |
| 3 <sup>rd</sup> Course on small animal medicine                                 | 2005 – 2007 | 170   | 84                     |
| 5 <sup>th</sup> Course on food and meat hygiene                                 | 2006 – 2008 | 180   | 32                     |
| 2 <sup>nd</sup> Course on cage, zoo and wild birds                              | 2006 – 2007 | 40    | 22                     |
| 2 <sup>nd</sup> Course on reptiles  | 2007 – 2008 | 40    | 34                     |
| 4 <sup>th</sup> Course on small animal medicine                                 | 2008 – 2010 | 170   | 31                     |
| 1 <sup>st</sup> Course on bees  | 2008 – 2009 | 40    | 48                     |

**11.2 COMMENTS**

It is an important issue of the Faculty's policy to strictly promote the continuing education. All together the Faculty presents a very large program of the continuing education in the most important fields of veterinary medicine. Most members of the teaching staff are involved, but also speakers from other faculties, scientific institutions or from the veterinary administration are included.

Participants judge the quality very positive. The courses are well known in all German federal states. Veterinarians from all regions of Germany apply for. Remand for places is usually higher then the number of places.

**11.3 SUGGESTIONS**

The educational efficiency could be increased by a closer cooperation in planning and contents in the field of continuing education (courses) between the Veterinary Faculties in Germany.

## Chapter 12

### POSTGRADUATE EDUCATION

#### 12.1 FACTUAL INFORMATION

The Faculty provides the possibilities to obtain the following degrees of postgraduate education:

##### **Doctorate of Veterinary Medicine (*Dr. med. vet.*)**

The Faculty awards the degree *Dr. med. vet.* to veterinarians who have performed 2 to 3 years of research work and written a thesis on the subject of their research work. Studies for this postgraduate degree do not include formalized course work. The requirements are outlined in the rules for obtaining a doctorate in veterinary medicine (*Promotionsordnung*). At the Faculty between 40 and 50 veterinarians receive the degree *Dr.med.vet.* per year.

##### **Qualification as “*Fachtierarzt*” (Veterinary Specialist)**

In Germany the national board certificate is the *Fachtierarzt*, a qualifying degree granted by the Tierärztekammern. This qualification can be obtained in about 30 disciplines (pre-, para- and clinical subjects). The training program and the minimum time for specialization depend on the requirements for acquiring the status of *Fachtierarzt* as defined for each discipline by the regional Veterinarians Chambers. In Saxony all candidates for this certificate among other duties have to pass a course according table 11.3 (if existing for the announced discipline).

As an educational establishment for veterinary medicine all institutes and clinics of the Faculty provide specialized veterinarians authorized for *Fachtierarzt* training. The specialists are also members of the examination boards composed by the State Veterinarians Chambers.

##### **Diplomat of European Colleges**

Members of the academic staff are also running the qualification to a diplomat of European Colleges in various disciplines. The certificate of a European Diplomat is recognised by the respective European Speciality College and the European Board of Veterinary Specialization (EBVS).

##### **Postgraduate qualification to the level of “*Habilitation*”**

In Germany, after having received the degree of *Dr. med. vet.* the next higher and final academic degree is the *Habilitation*. It requires about 6 to 9 years of scientific research, a presentation of a written thesis, either as a monography or as cumulative composition of published papers on a specific scientific issue. The thesis will be accepted by the Faculty after a thorough review which is followed by a public oral presentation and discussion. The candidate has further to submit 3 topics for a test lecture in presence of the students, one of

them is chosen by the Faculty Council. In the case of passing, the Faculty Council decides to award the degree of Dr.med.vet.habil. and the “right to teach” (*venia legendi*).

The Habilitation is still an important prerequisite for appointment as a professor at a German university.

In the last five years 12 Habilitation-procedures were successfully finished at the Faculty.

### 12.1.1 CLINICAL SPECIALTY TRAINING (INTERNS AND RESIDENTS)

**Table 12.1.1:**

#### Clinical specialty training

| Clinical discipline              | No interns | No residents | Diploma or title anticipated |
|----------------------------------|------------|--------------|------------------------------|
| 1. Clinic for Theriogenology     |            | 1            | ECSH                         |
| 2. Dep. Small Animal Medicine    |            | 3            | ECVS                         |
| 3. Clinic for Birds and Reptiles |            | 3            | ECANS                        |

### 12.1.2 RESEARCH EDUCATION PROGRAMMES

**Table 12.2:**

#### Number of research students enrolled in different programmes

| Type of degree                       | Fulltime | Part time | Duration          |
|--------------------------------------|----------|-----------|-------------------|
| Veterinary Specialist (Fachtierarzt) | 16       |           | 4 years           |
| Doctoral level (Dr. med. vet.)       | 206      | 155       | about 3 – 4 years |

## 12.2 COMMENTS

The postgraduate research at the Faculty is represented especially by the Doctorates (Dr. med. vet.). They are important for the research projects at the Faculty. The “fulltime” research students (postgraduates) usually stay at the Faculty and receive a grant from different funds. The “part time” postgraduates are dealing with research topics in parallel to their job as veterinarian in different fields (“external” postgraduates).

### 12.3 SUGGESTIONS

The Number of veterinarians receiving Doctorate degree should be increased. The Faculty is planning to establish a PhD study which allows to award the PhD grade. This will be promoted by the Research Academy Leipzig (RAL), inaugurated at the University in 2006. With the foundation of the RAL the University Leipzig intends to advance its international PhD programmes as the basis of its research strategy and the promotion of young scientists. By doing so, the University Leipzig continues its successful experience with past and ongoing International PhD programmes, graduate courses, Max Planck Research Schools and Marie Curie Training Sites raising it to a new quality level and being part of the current profile building process of the university.

## Chapter 13

### RESEARCH

#### 13.1 FACTUAL INFORMATION

- Project in practical-clinical year: Each student has to deal with a scientific project (task) – or students groups – in a period of 98 h. All institutes and clinics have to offer suited topics, e. g. study of literature, joining research experiments, evaluating data from experiments, preparation of a written text etc. The results are presented as posters or orally in the institutions.
- Possibility to perform a training of at least 2 weeks up to a maximum of 8 weeks in a scientific institution as part of 16-week practical training in the 5<sup>th</sup> year of education
- Student assistance: The Faculty has a limited number of student assistance posts. The students learn the first steps in research work and get an idea about the research topics of the institution and the tasks of the institution at all.

#### 13.2 COMMENTS

The introduction of the project work into the curriculum is a very important new element in the veterinary education. It helps to prepare the veterinarians in using scientific methods not only for jobs in scientific institutions, but also for a high quality veterinary practise. Besides that the Faculty is interested to increase the number of postgraduates, which are willing to receive a Doctorate degree. Further the Faculties should promote this interest because there is a need for young scientists in different fields and institutions and at the Faculties too.

#### 13.3 SUGGESTIONS

The new curriculum (TAppV) offered more flexibility also for using the time for student research. After having the first experiences the Faculties should exchange the opinions how to intensify or extend this element of education.