

# CURRICULUM

**Degree Programme, Veterinary Medicine**



**University of Veterinary Medicine, Vienna**



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# 1. General terms

## 1.1. Preamble

The course of studies of veterinary medicine serves as scientific and practical education for the veterinary profession in all its specialties. This course of studies should impart well-founded fundamental knowledge in all fields of veterinary medicine and confer competence and problem-solving capacity by means of practice-oriented instruction. More comprehensive education in a field of the student's choice is to relay practical and specialised knowledge beyond the general requirements. This should render graduates capable of practicing their profession by supplying them with a better start into their field of specialisation. The qualification profile of graduates of veterinary medicine describes the intellectual and practical qualifications as well as social skills necessary to attain professional competence and conveys the absolute necessity of post-graduate continuing education.

## 1.2. Legal basis

The Law Regulating Study at Austrian Universities 97 (*Universitätsstudien-gesetz, UniStG*) as amended is the legal basis of the curriculum at hand.

Furthermore, the EC Council Directive 78/1027, which defines general requirements for graduates of the studies of veterinary medicine, was taken into consideration in preparing the curriculum.

## 1.3. Qualification profile

The studies of veterinary medicine serve the attainment of fundamental knowledge in the fields of veterinary medicine and natural sciences and the conveyance of extensive and broad knowledge on the theoretical and practical aspects of animal medicine as well as practice-relevant subjects associated with food production.

### **The professional activities of graduates comprise, in particular**

- curative agendas in the fields of large and small animal medicine,
- control activities in the field of food production,
- administration of all agendas pertaining to animal protection,
- realisation of all measures for the prevention and combating of epidemics,
- observation of preventive veterinary measures serving public health,
- carrying out of agendas in the field of reproductive medicine in large and small animals,
- research and development in pharmaceutical, biotechnological and other industrial fields,
- education and research.

### **Professional fields**

Graduates work in the following areas, in particular:

1. in curative practice
2. caring for farms
3. in food production and quality control
4. in private or public health services
5. in pharmaceutical, biotechnological and industrial production companies
6. in public administration
7. in feed production and quality control
8. at universities, research institutions or research-oriented educational institutions
9. in animal and environmental protection.

**The goals of the studies of veterinary medicine are thus the conveyance of:**

- well-founded fundamental knowledge in the field of natural sciences,
- a sound understanding of the morphology and physiology of the system and behaviour of animals as well as their needs,
- a firm grasp of the pathological processes which can take place in organs and bodily functions in the various species,
- thorough comprehension of illnesses of infectious and non-infectious nature as well as their effects on humans, animals and the quality of foodstuffs,
- knowledge of biotechnology,
- a well-founded understanding of the effects of xenobiotics on humans, animals and the quality of foodstuffs, medical-ethical knowledge
- the basic understanding which is essential for the acquisition of new methods and knowledge and allows for continuing education in keeping with scientific progress.

**Professional and key qualifications**

Upon completion of the general phase of studies, the graduate should possess the following professional capabilities for curative duties:

1. the drawing up of a patient history based on observations made by the graduate or others and to convert this into starting points for examination and treatment,
2. the carrying out of a physical examination as well as simple laboratory tests,
3. the drawing up of a summary of symptoms as well as evaluation of their importance,
4. the ability to arrive at a preliminary diagnosis and differential diagnosis,
5. the planning of further tests and the collection of samples for such,
6. the ability to arrive at a diagnosis<sup>1</sup>.
7. the ability to come to a prognosis of the probability of the outcome of an illness,
8. the carrying out of therapy or the prescription of such,
9. the recommendation or prescription of measures to prevent disease,
10. to guarantee the proper handling and application of medication,
11. to manage a veterinary practice including its pharmacy.
12. Moreover, the graduate should possess the following abilities:
13. the giving of advice on the behaviour, keeping and handling of animals,
14. the knowledge as to whether an illness or treatment poses a health risk to humans or animals or a danger to the environment,
15. the ability to decide what animals or products of animal origin are suitable for human consumption and
16. the professional requirements for the relevant continuing education and specialisation for the non-curative fields of the profession.

These professional qualifications apply for all species covered in the studies of veterinary medicine and include life or organ-threatening illnesses, diseases relevant in public health as well as common illnesses or those considered important for reasons other than the above mentioned.

**The general phase of studies is followed by compulsory specialised education of higher qualification in the specialty of the student's choice.**

The qualification goals of the relevant specialty comprise systematic specialisation with the objective of attaining higher qualification in the chosen field in order to confer the basis for further post-graduate specialisation.

**Fields in which specialised education can be completed:**

Clinical Veterinary Medicine  
Food Sciences and Public Veterinary and Health Services

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<sup>1</sup> Determination of the type of condition or illness to the extent that data is available.

## Medical Biotechnology and Animal Biotechnology

### Laboratory Animal Science, Experimental Medicine and Alternative Methods to Animal Experiments

Within the field of Clinical Veterinary Medicine, the student can choose among the following:

- Small Animal Medicine
- Equine Medicine
- Large Animal Medicine
- Zoo and Wild Animal Medicine
- Medicine of Poultry, Caged Birds and Reptiles.

Specialised education in the fields of Fish and Bee Sciences is ensured through a selection of courses which can be completed alternatively.

The professional qualifications in the field of Clinical Veterinary Medicine are related to the knowledge of known illnesses of the various species, the prevention and treatment of such as well as the ability to recommend further therapies.

In the fields of Food Sciences and Public Veterinary and Health Services, Medical Biotechnology and Animal Biotechnology, as well as Laboratory Animal Science, Experimental Medicine and Alternative Methods to Animal Experiments, the professional qualifications comprise systematic specialisation in the relevant field.

The arrangement of the course of studies promotes working in teams.

The structure of the curriculum should serve to allow students to complete parts of their studies at internationally recognised universities abroad.

Aside from professional qualifications, fundamental scientific skills are to be acquired so that the veterinarian is capable of and can be placed under the obligation of pursuing continuing education according to scientific progress, of keeping him/herself updated on the relevant scientific literature and of acquiring the latest knowledge and methods. Students should possess the ability to recognise scientific problems and to describe them using medical terminology and to critically assess the value of scientific articles from the fields of medicine and the related natural sciences.

The graduates of veterinary medicine must recognise their responsibility towards patients, clients, and society and be well-acquainted with the legal framework in which their work is regulated. They must also be aware of their affiliation to the veterinary profession and commit themselves to conveying a positive public appearance through appropriate behaviour.

Graduates of veterinary studies must be aware of the boundaries of their knowledge and have gained enough insight into the structure of veterinary medical health services to take appropriate countermeasures.

Graduates must likewise be appreciative of the interactions among humans, animals and the environment in their systemic effects and always be prepared to act for the welfare of animals.

#### **1.4. Duration and structure of studies**

The degree programme of veterinary medicine lasts 12 semesters and comprises 269 semester hours, 242 of which are compulsory subjects and 27 of which are non-compulsory elective courses (Section 4 para. 25 and Section 13 para. 4 subpara. 6 UniStG).

Studies are divided into 3 stages. The first stage lasts 2 semesters, the second stage 4 semesters and the third 6 semesters. Altogether 26 weeks of externship are to be absolved during the course of studies.

### **1.5. Commencement of studies**

The curriculum is set up so that the coordination of compulsory courses in sequence are only coordinated when studies are begun in the fall semester. Students who begin studying in spring semester are encouraged to visit non-compulsory elective courses.

### **1.6. Requirements for admission**

The requirements for admission to the degree programme of veterinary medicine are reflected in the regulations of the Decree Regulating Entitlement to Study at Austrian Universities 1998 (*Universitätsberechtigungsverordnung, UBVO*).

## 2. Types of classes

### 2.1. Semester hours

The dimensions of lectures and other compulsory subjects are defined in semester hours (SH). In accordance with the duration of a semester of 15 weeks, one semester hour denotes 15 units of one academic hour being 45 minutes.

### 2.2. Compulsory subjects

The term, compulsory subjects, denotes all courses which are mandatory for all students of veterinary medicine.

### 2.3. Compulsory elective courses

In the course of the specialised education, students are required to choose among the specialties “Clinical Veterinary Medicine”, “Food Sciences and Public Veterinary and Health Services”, “Medical Biotechnology and Animal Biotechnology” and “Laboratory Animal Science, Experimental Medicine and Alternative Methods to Animal Experiments” and to complete courses totalling 33 semester hours, whereby a specific number of semester hours are subject to a mandatory sequence of courses and further courses can be chosen from a limited selection related to the field of specialty. Further compulsory elective courses in the amount of 5 semester hours must be completed as defined in item 7.

### 2.4. Non-compulsory elective courses

Students of the degree programme, veterinary medicine, are required to complete 27 semester hours of non-compulsory elective courses in the course of their studies, which are to be held as courses with inherent examinational character or as courses ending with a final examination.

Non-compulsory elective courses are listed in appendix II. All courses enumerated in item 6 and marked with \*\* can be taken as non-compulsory elective courses.

Further such courses can be found in the respective lecture timetable. According to Para. 4 subpara. 25, non-compulsory elective courses can be chosen from the selection of all domestic and foreign universities.

### 2.5. Types of classes

Depending upon the educational goal and content of the course, classes are categorised as to the following types:

**Lecture (LE):** lectures serve the conveying of basic concepts and systematic fundamentals, the demonstration of scientific background, the explanation of complicated topics, the connection of pools of information and the illustration of clinical relevance.

**Conversatorium (CO):** such are courses which serve to strengthen already present knowledge and to practice problem-solving abilities by means of discussion with instructors and opportunity for questions.

**Seminars (SE):** seminars serve as a basis for scientific discussion. In seminars, the student's active participation is required, within the framework of which students develop, in particular, the ability to apply the knowledge gained in the analysis and solving of scientific or clinical problems in small groups. Participants are to be required to make written or oral contributions.

**Exercises (EX):** exercises have the goal of, on the one hand, imparting a better understanding of processes relating to natural sciences and, on the other, developing skills for the later career.

**Clinical rotations:** within the framework of clinical rotations, students are integrated in the daily clinical operations and take on responsibilities pertaining to the admission, diagnosing, treatment and general care of patients.

## 2.6. Examinations

Joint examinations are examinations covering several subjects.

Commissional examinations are examinations covering several subjects and carried out by 3 or more examiners.

Courses with inherent examinational character (conversatoriums, seminars, exercises) are course examinations, the evaluation of which is not based on a single examination at the end of the course but on the regular written or oral contributions of the participants.

Course examinations are held in written or oral form at the end of the course.

Students have the right to repeat examinations three times in the first stage of studies and four times in the further stages.

Commissional joint examinations must be repeated in their entirety where more than one subject is failed. Otherwise, only the failed subject is to be repeated.

## 2.7. Diploma thesis

Students are required to write a diploma thesis.

In order to accommodate to the needs of the extremely career-oriented studies of veterinary medicine, the substitution of the diploma thesis by equivalent alternatives such as the accumulation of seminar work or the drawing up of case reports is possible.

The topic of the diploma thesis is to be chosen from one of the subjects of examination listed in the curriculum.

The student has the right to suggest a topic or to choose a topic from the selection of suggestions from the relevant supervisors.

The joint preparation of a topic by several students is admissible where the performance of the individual participant remains assessable.

The responsibilities are to be chosen in a manner in which their completion by the student within one semester is feasible and reasonable.

## 2.8. ECTS Credits

The ECTS (European Credit Transfer System) serves to facilitate the inter-university and intra-European recognition of academic performance. The allocation of ECTS credits is carried out for each course according to the respective workload to be accomplished by the student (in the course as well as outside the course as self-study). ECTS credits are also to be allocated for externships and diploma theses.

The ECTS has allocated 360 credits for the completion of the entire degree programme.

ECTS credits have been designated separately for lectures which include examination of participants as well as courses with inherent examinational character. Where courses with inherent examinational

character are part of the courses of a subject of examination, the credits for such are included in the total credits for the subject (e.g. a total of 12 credits are awarded for the subject, medical biochemistry, 3 of which the student receives upon successful completion of the exercises, the remaining 9 credits upon passing the examination.)

The ECTS credits are divided among the stages of studies, electives, externships and diploma thesis as follows:

<b>stage of studies</b>	<b>compulsory courses</b>	<b>compulsory elective courses</b>	<b>free non-compulsory elective courses</b>	<b>externships</b>	<b>diploma thesis</b>	<b>total</b>
<b>1<sup>st</sup></b>	50	1	6	3		<b>60</b>
<b>2<sup>nd</sup></b>	100	2	12	6		<b>120</b>
<b>3<sup>rd</sup></b>	119	2	9	30	20	<b>180</b>
<b>total</b>	<b>269</b>	<b>5</b>	<b>27</b>	<b>39</b>	<b>20</b>	<b>360</b>

### 3. The first stage of studies

#### 3.1. Amount of semester hours

In the 2 semesters comprising the first stage of studies, compulsory subjects are scheduled in the amount of 40 semester hours. The completion of 4 semester hours of non-compulsory elective courses is recommended.

#### 3.2. Compulsory subjects of the first stage of studies

Title	SH	Credits
Orientation phase: study and career orientation	4	3
Zoology	5	7
Animal science	3	3
Fundamentals of medical physics	3	4
Fundamentals of medical biochemistry	3	5
Specialised terminology	2	2
Medical physics	3	5
Medical biochemistry	10	14
Medical biometry and epidemiology	2	2
Scientific theory	3	3
Botany and pharmacognosy	1	1
Immunology	1	1
<b>Total</b>	<b>40</b>	<b>50</b>
<i>Courses of free choice (non-compulsory electives)</i>	<i>6</i>	<i>6</i>
<i>Compulsory elective courses</i>	<i>1</i>	<i>1</i>
<i>2 weeks externship</i>		<i>3</i>

#### 3.3. Recommended semester plan

First semester						
Courses Title	academic hours				SH	Credits
	LE	CO	SE	LE		
Study and career orientation						
Education and future career opportunities	22,5				1,5	2
Study didactics			37,5		2,5	
Zoology						
pects of basic and advanced zoology relevant to veterinary medicine	45				3	
Cell biology	30				2	
Animal science						
Breed studies, animal husbandry and ethology	45				3	
Medical physics						
Fundamentals of medical physics	45				3	
Medical biochemistry						
Fundamentals of medical biochemistry	45				3	
Specialised terminology						

Veterinary medical terminology in German and English		30			2	2
<b>Total</b>	<b>232.5</b>	<b>30</b>	<b>37.5</b>		<b>20</b>	

<b>Second semester</b>						
<b>Courses</b>	academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>EX</b>	<b>SH</b>	<b>Credits</b>
Medical physics						
Medical physics	30				2	
Exercises in medical physics				15	1	1
Medical biochemistry						
Medical biochemistry	105				7	
Exercises in medical biochemistry				45	3	3
Medical biometry and epidemiology						
Fundamentals of statistical procedures		15			1	1
Fundamentals of epidemiological models		15			1	1
Scientific theory						
Fundamentals of epistemology and scientific theory	15				1	
Ethics	15				1	
Scientific literature – basis of information	15				1	
Botany and pharmacognosy						
Basic botany	5	10			1	1
Immunology						
Fundamentals of immunology	5	10			1	1
<b>Total</b>	<b>190</b>	<b>50</b>		<b>60</b>	<b>20</b>	

### 3.4. Examination regulations of the first stage of studies

3.4.1. 1 written commissional joint examination in the subjects of zoology and animal science

3.4.2. 1 written commissional joint examination in the subjects of fundamentals of medical physics & fundamentals of medical biochemistry

3.4.3. 1 oral commissional joint examination in the subjects of medical biochemistry and medical physics

3.4.4. Course examinations of all compulsory courses which are not listed in item 3.4.1., 3.4.2., and 3.4.3.

### 3.5. Requirements for admission to courses and examinations

The successful completion of the examinations listed in item 3.4.1. and 3.4.2. is the prerequisite for participation in the exercises in medical physics and the exercises in medical biochemistry.

The successful completion of the exercises in medical biochemistry and exercises in medical physics is the prerequisite for the admission to the oral commissional joint examination in the subjects of medical biochemistry and medical physics.

## 4. The second stage of studies

### 4.1. Amount of semester hours

In the 4 semesters comprising the second stage of studies, compulsory subjects are scheduled in the amount of 80 semester hours. The completion of 10 semester hours of non-compulsory elective courses is recommended.

### 4.2. Compulsory subjects of the second stage of studies

Title	SH	Credits
Anatomy	17	<b>22.5</b>
Histology and embryology	9	<b>10.5</b>
Physiology	11	<b>12.5</b>
Propaedeutic imaging	3	<b>3</b>
Bacteriology	3	<b>4</b>
Virology	3	<b>4</b>
Parasitology	4	<b>5</b>
Animal nutrition	3	<b>4.5</b>
Botany and pharmacognosy	2.5	<b>3</b>
Pharmacology and toxicology	4.5	<b>6.5</b>
Immunology	1.5	<b>2</b>
Basic pathology	4.5	<b>5.5</b>
Animal breeding	4	<b>5</b>
Food sciences and public health services	7.5	<b>9.5</b>
Animal husbandry and animal welfare	2.5	<b>3</b>
<b>Total</b>	<b>80</b>	<b>100</b>
<i>Courses of free choice (non-compulsory electives)</i>	<i>12</i>	<i>12</i>
<i>Compulsory elective subjects</i>	<i>2</i>	<i>2</i>
<i>4 weeks externship</i>		<i>6</i>

### 4.3. Recommended semester plan

**Third and fourth semester:** in the third and fourth semesters, the fundamental subjects of histology and embryology, anatomy and physiology are taught in an organ-oriented, interdisciplinary manner in the form of functional preliminary instruction.

<b>Third and fourth semester</b>						
Courses	academic hours				SH	Credits
	LE	CO	SE	EX		
Anatomy						
Systematic anatomy	45				3	<b>8</b>
Exercises in systematic anatomy				90	6	
Topographical anatomy	30				2	<b>8</b>
Exercises in topographical anatomy				90	6	
Histology and embryology						
Histology	45				3	<b>4</b>
Exercises in histology				60	4	
Embryology	15				1	<b>1</b>
Exercises in embryology				15	1	

Physiology						
Physiology	120				8	
Exercises in physiology				45	3	<b>3</b>
Propaedeutic imaging						
Fundamentals of imaging procedures		30			2	<b>2</b>
Exercises in radiographic anatomy				415	1	<b>1</b>
<b>Total</b>	<b>255</b>	<b>30</b>		<b>315</b>	<b>40</b>	

**Fifth and sixth semester:** in the fifth and sixth semesters, the paraclinical subjects of bacteriology, virology, parasitology, animal nutrition, pharmacology and toxicology, botany and pharmacognosy, food sciences and public health services as well as animal husbandry and animal welfare are taught. The subjects are combined in 4 topic-oriented blocks.

<b>Fifth semester</b>						
<b>Courses</b>	academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>EX</b>	<b>SH</b>	<b>Credits</b>
<b>Block 1</b>						
Bacteriology						
Bacteriology	30				2	
Exercises in bacteriology				15	1	<b>1</b>
Virology						
Virology	30				2	
Exercises in virology				15	1	<b>1</b>
Parasitology						
Parasitology	30				2	
Exercises in parasitology				30	2	<b>2</b>
<b>Block 2</b>						
Animal nutrition						
Animal nutrition	5	15	5		1.7	<b>1.5</b>
Exercises in animal nutrition				20	1.3	<b>1.5</b>
Botany and pharmacognosy						
Advanced botany		8			0.5	<b>0.5</b>
Pharmacognosy		15			1	<b>1</b>
Exercises in botany and pharmacognosy				15	1	<b>1</b>
Pharmacology and toxicology						
Pharmacology and toxicology	55				3.7	
Exercises in pharmacology				12	0.8	<b>1</b>
<b>Total</b>	<b>150</b>	<b>38</b>	<b>5</b>	<b>107</b>	<b>20</b>	

<b>Sixth semester</b>						
<b>Courses</b>	academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>EX</b>	<b>SH</b>	<b>Credits</b>
<b>Block 3</b>						
Immunology						
Immunology	23				1.5	
Basic pathology						
Basic pathology	67				4.5	
Animal breeding and genetics						
Animal breeding and genetics					3	
Exercises in animal breeding and genetics	45			15	1	<b>1</b>

<b>Block 4</b>						
Food sciences and public veterinary and health services						
Fundamentals of food hygiene	30				2	
Meat hygiene and technology		15			1	<b>1</b>
Milk hygiene and technology		15			1	<b>1</b>
Quality assurance and risk assessment of foodstuffs		15			1	<b>1</b>
Exercises in quality assurance and risk assessment of foodstuffs				30	2	<b>2</b>
Animal husbandry and animal welfare						
Housing systems and husbandry forms	30				2	
Excursion in animal husbandry, animal welfare and milk hygiene		15*			1	<b>1</b>
<b>Total</b>	<b>195</b>	<b>60</b>		<b>45</b>	<b>20</b>	

\*excursion

#### **4.4. Examination regulations of the second stage of studies (second diploma examination)**

4.4.1. 1 oral commissional joint examination in the subjects of anatomy, histology and embryology and physiology

4.4.2. 1 written commissional joint examination in bacteriology, virology and parasitology

4.4.3. 1 written commissional joint examination in botany and pharmacognosy, animal nutrition and pharmacology and toxicology

4.4.4. 1 written commissional joint examination in animal breeding and genetics, basic pathology and immunology

4.4.5. 1 written commissional joint examination in food sciences and public health services and animal husbandry and animal welfare

4.4.6. course examination in Propaedeutic imaging

Students are recommended to take the examinations at the end of each course block.

#### **4.5. Requirements for admission to courses and examinations**

The successful completion of all courses and examinations of the first stage of studies is the prerequisite for participation in the courses of the second stage of studies.

The successful completion of the oral commissional joint examination in the subjects of anatomy, histology and embryology, and physiology (item 4.4.1.) is the prerequisite for admission to the examinations listed in items 4.4.2 to 4.4.5.

The prerequisite for admission to the examinations of the 2<sup>nd</sup> stage of study is the successful completion of all courses listed in 4.3. for the speciality area.

## 5. The third stage of studies

### 5.1. Amount of semester hours

In the 6 semesters comprising the third stage of studies, compulsory subjects are scheduled in the amount of 117 semester hours.

### 5.2. Compulsory subjects and courses of the third stage of studies

Title	SH	Credits
Histopathological exercises	1.5	<b>1.5</b>
Pathoanatomical exercises	1.5	<b>1.5</b>
Functional pathology	2	<b>2</b>
Clinical propaedeutic	8	<b>10</b>
Organ, metabolic and infectious diseases	23	<b>26</b>
Emergency medicine	4	<b>5</b>
Epidemiological medicine	3	<b>4</b>
Clinical pharmacology	2	<b>2</b>
Clinical rotations	32	<b>24*</b>
Epidemiology	2	<b>2</b>
Regulatory framework of veterinary medicine	2	<b>2</b>
Forensic veterinary medicine	1	<b>1</b>
Exercises in meat inspection	2	<b>2</b>
Specialty**	33	<b>36</b>
<b>Total</b>	<b>117</b>	<b>119</b>
<i>Courses of free choice (non-compulsory electives)</i>	9	<b>9</b>
<i>Ccompulsory electiv courses</i>	2	<b>2</b>
<i>20 weeks of externship***</i>		<b>30</b>
<b>Diploma thesis</b>		<b>20</b>

\*20 credits are awarded for the completion of clinical rotations, a further 6 upon completion of the examination listed in item 5.4.4.

\*\*to be chosen from the subjects enumerated in item 6.

\*\*\*parts of the externship can already be completed in the first and second stages of studies (see item 8).

In the seventh and eighth semesters, part of the fundamental clinical education is carried out in a topic-oriented and interdisciplinary manner. The courses are held in blocks.

### 5.3. Recommended semester plan

Seventh and eighth semester						
Courses Title	academic hours				SH	Credits
	LE	CO	SE	EX		
Histopathological exercises				22	1.5	<b>1.5</b>
Pathoanatomical exercises				23	1.5	<b>1.5</b>
<b>Block 1 : clinical propaedeutic, functional pathology</b>						
Functional pathology		30			2	<b>2</b>
Clinical propaedeutic						

Clinical propaedeutic	37				2.5	
Exercises in clinical propaedeutic				75	5	<b>5</b>
Fundamentals of surgical work				8	0.5	<b>0.5</b>
<b>Total</b>	<b>37</b>	<b>30</b>		<b>83</b>	<b>10</b>	
<b>Block 2: organ, metabolic and infectious diseases</b>						
Introduction to clinical pharmacology	2				0.1	
Virology			12		0.8	<b>1</b>
Bacteriology	12				0.8	
Parasitology	8				0.5	
Animal nutrition			10		0.7	<b>1</b>
Advanced pathology	33				2.2	<b>2.5</b>
Diagnostic imaging	27				1.8	
Exercises in diagnostic imaging				15	1	<b>1</b>
Laboratory diagnostics		18			1.2	<b>1.5</b>
Small animal internal medicine		29			1.9	<b>2</b>
Equine internal medicine		22			1.5	<b>1.5</b>
Large animal internal medicine		27			1.8	<b>2</b>
Diseases of poultry and caged birds	16				1.1	
Obstetrics, andrology and gynaecology	46				3.1	
Surgery	41				2.7	
Orthopaedics	15				1	
Orthopaedic exercises				12	0.8	<b>1</b>
<b>Total</b>	<b>200</b>	<b>96</b>	<b>22</b>	<b>27</b>	<b>23</b>	
<b>Block 3: emergency medicine</b>						
Emergency patient care		16		2	1.2	<b>1.5</b>
The emergency patient in diagnostic imaging		2			0.1	
Anaesthesia in the emergency patient		9		1	0.7	<b>1</b>
Obstetrical care in emergencies		3		2	0.3	<b>0.5</b>
Orthopaedic care of the emergency patient		4			0.3	
Avian emergency medicine		3			0.2	
Surgical first aid in the emergency patient		14		1	1	<b>1</b>
The large animal as emergency patient		3			0.2	
<b>Total</b>		<b>54</b>		<b>6</b>	<b>4.0</b>	
<b>Block 4: epidemiological medicine</b>						
Parasitology	2				0.1	
Bacteriology	4				0.3	
Virology	8				0.5	
Pathology	6				0.4	
Epidemiological medicine	25				1.7	
<b>Total</b>	<b>45</b>				<b>3</b>	

The general clinical education is completed in the 9<sup>th</sup> semester. Aside from the subject, clinical pharmacology, only clinical rotations are offered in the 9<sup>th</sup> semester. These can be absolved, also during holiday, upon passing the examination listed in item 5.4.3. (written commissional joint examination in organ, metabolic and infectious diseases, emergency medicine and epidemiological medicine). In addition to the clinical rotations, a total of 5 night duties must be carried out.

During clinical rotations, students are not allowed to take part in other courses (e.g. non-compulsory electives, compulsory elective courses).

Five days of clinical rotations must be completed at each of the following clinics:

First Medical Clinic, Equine Department

First Medical Clinic, Small Animal Department

Second Medical Clinic, Department for Ruminants  
 Second Medical Clinic, Department for Swine  
 Clinic for Surgery and Ophthalmology, Small Animal Department  
 Clinic for Surgery and Ophthalmology, Equine Department  
 Clinic for Surgery and Ophthalmology, Department of Anaesthesiology and Intensive Care  
 Clinic for Obstetrics, Gynaecology and Andrology, Small Animal Department  
 Clinic for Obstetrics, Gynaecology and Andrology, Large Animals and Horses  
 Clinic for Poultry and Caged Birds  
 Orthopaedic Clinic  
 Teaching farms of the University of Veterinary Medicine

<b>Ninth semester</b>						
<b>Courses</b>	academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>EX</b>	<b>SH</b>	<b>Credits</b>
Clinical pharmacology			30		2	<b>2</b>
Clinical rotations (60 days)				480	32	<b>20</b>
<b>Total</b>			<b>30</b>	<b>480</b>	<b>34</b>	

The semesters, 10 and 11, are dedicated predominantly to specialised education.

The subjects/courses epidemiology, forensic veterinary medicine, regulatory framework of veterinary medicine as well as the exercises in meat inspection are mandatory for all students. Students must choose a specialty and, within the framework of this specialty, complete courses in the amount of 33 semester hours.

<b>Tenth and eleventh semesters</b>						
<b>Compulsory subjects/Courses mandatory for all students</b>	academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>EX</b>	<b>SH</b>	<b>Credits</b>
Medical biometry and epidemiology			30		2	<b>2</b>
Regulatory framework of veterinary medicine	30				2	
Forensic veterinary medicine	15				1	
Exercises in meat inspection*				30	2	<b>2</b>
Specialty					33	<b>39</b>
<b>Total</b>					<b>40</b>	

\*The exercises in meat inspection can be completed upon participation in the compulsory courses in food sciences and public health services (6<sup>th</sup> semester).

The twelfth semester is reserved for the completion of 10 weeks' externship and the writing of the diploma thesis.

<b>Twelfth semester</b>						<b>Credits</b>
Externship, 10 weeks						<b>15</b>
Diploma thesis						<b>20</b>

#### **5.4. Examination regulations of the third stage of studies (third diploma examination)**

5.4.1. written examination in clinical propaedeutic

5.4.2. 1 oral commissional examination in clinical propaedeutic with a practical part

5.4.3. 1 written commissional joint examination in organ, metabolic and infectious diseases, emergency medicine and epidemiological medicine

5.4.4. 1 oral commissional joint examination with a practical part for the examination of clinical-diagnostic and therapeutic skills

An examination catalogue is to be drawn up by the representatives of the subjects of this commission joint examination.

5.4.5. 1 written commission joint examination in regulatory framework of veterinary medicine and forensic veterinary medicine

5.4.6. 1 oral commission examination from the specialty

## **5.5. Requirements for admission to courses and examinations**

The successful completion of the examination listed in item 5.4.1. is prerequisite for admission to the exercises in clinical propaedeutic.

The successful completion of all courses and examinations of the second stage of studies and of the exercises in clinical propaedeutic and fundamentals of surgical work is the requirement for admission to the oral commission examination in clinical propaedeutic (item 5.4.2.).

The successful completion of the examination listed in item 5.4.2. is the requirement for admission to the examination listed in item 5.4.3.

The successful completion of the written commission joint examination in organ, metabolic and infectious diseases, emergency medicine and epidemiological medicine (item 5.4.3.) is prerequisite for participation in the clinical rotations.

The successful completion of the clinical rotations is required for the admission to the oral commission joint examination with a practical part for the examination of clinical-diagnostic and therapeutic skills (5.4.4.).

The requirement for participation in specialty courses is the successful completion of the examination listed in item 5.4.4.

Participation in the courses of the chosen specialty is prerequisite for admission to the examination listed in item 5.4.6.

## 6. Specialised education

### 6.1. Clinical veterinary medicine

#### 6.1.1. Small animal medicine

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Case demonstrations		60			4	4
Internal medicine		45		30	5	5
Surgery		30		30	4	4
Ophthalmologic diseases		15			1	1
Fertility disorders and contraception		15			1	1
Gynaecological and andrological operations				22	1.5	1.5
Anaesthesia/Intensive medicine		7		8	1	1
Imaging procedures	15				1	
Special laboratory diagnostics: small animals and laboratory animals		15			1	1
Selected chapters of pathology		15			1	1
Nutrition/dietetics		7		8	1	1
Infectious diseases and vaccination programmes		15			1	1
Illnesses of laboratory animals		22			1.5	1.5
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*Of the following selection of courses, 9 semester hours are to be completed. Furthermore, for courses with clinical relevance from the specialties **Clinical Veterinary Medicine – Zoo and Wild Animal Medicine** (item 6.1.4.) and – **Medicine of Poultry, Caged Birds and Reptiles** (item 6.1.5.), credit will also be given.

Courses of choice Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Veterinary dentistry: small animals and laboratory animals	7			8	1	1
Oncology		30			2	2
Laboratory diagnostics: instruments, methodology and basics of interpretation		8			0.5	0.5
Cytological diagnostics: horses, small animals, large animals		15			1	1
Behavioural disorders and therapy: small animals	15	15			1	1
Complementary medicine: small animals	15			15	2	2
Diagnostics and impact of hereditary defects on canine breeding	7			8	1	1
Applied animal breeding and genetic hygiene in small animals		15			1	1
Immune pathology and clinical immunology: small animals		15			1	1
Neuropathology: horses, small animals		15			1	1
Pathology of the endocrine system		15			1	1
Physiology and pathophysiology of reproduction in small laboratory animals		30			2	2
Fertility management and biotechnology of reproduction; small animals		8		7	1	1
Physiology of aging in small animals	8	7			1	1

Osteosynthesis in small animals		15			1	<b>1</b>
Applied radiological and ultrasound anatomy in small animals**		30			2	<b>2</b>
Selected chapters of slice imaging anatomy in small animals**		15		22	2.5	<b>2.5</b>
Radiation protection education (Section 28 of the Radiation Protection Regulation, <i>Strahlenschutzgesetz, StrSchVo</i> )		15		22	2.5	<b>2.5</b>

### 6.1.2. Equine medicine

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Case demonstrations		60			4	4
Internal medicine (excluding the GI tract)		30			2	2
Diseases of the digestive tract		30			2	2
Foal illnesses		8			0.5	0.5
Soft tissue surgery		15			1	1
Ophthalmologic diseases		8			0.5	0.5
Dentistry	8			7	1	1
Advanced diagnostics of lameness				15	1	1
Diseases of the musculoskeletal system		45			3	3
Orthopaedic operations				15	1	1
Fertility disorders	22				1.5	
Equine breeding and veterinary management of the stud farm		15			1	1
Large animal obstetrics				15	1	1
Anaesthesia/Intensive medicine		15			1	1
Selected chapters in pathology	7				0.5	
Nutrition/dietetics		15			1	1
Infectious diseases		30			2	2
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*Of the following selection of courses, 9 more semester hours are to be completed. Furthermore, courses from item 6.1.3. (**Clinical Veterinary Medicine – Large Animal Medicine**) and item 6.2.2. (**Reproductive Biotechnology**) can also be chosen.

Courses of choice Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Laboratory diagnostics : instruments, methodology and basics of interpretation		7			0.5	<b>0.5</b>
Advanced laboratory diagnostics in horses		8			0.5	<b>0.5</b>
Cytological diagnostics: horses, small animals and large animals		15			1	<b>1</b>
Complementary medicine: horses		30			2	<b>2</b>
Practical and legal aspects of equestrian sport		15			1	<b>1</b>
Musculoskeletal system in horses: diagnostic imaging		15			1	<b>1</b>
Diagnostics of lameness with the use of modern methods of measurement		15			1	<b>1</b>
Fracture treatment: horses				15	1	<b>1</b>
Embryo transfer and associated techniques in large animals		7		8	1	<b>1</b>
Advanced spermatology, semen conservation and insemination: horses and large animals		7		8	1	<b>1</b>
Neuropathology: horses and small animals		15			1	<b>1</b>
Immune pathology and pathology of the endocrine system: horses		15			1	<b>1</b>
Feed assessment in horses				15	1	<b>1</b>
Current topics in equine medicine		15			1	<b>1</b>
Castration exercises: horses				15	1	<b>1</b>

Illnesses of the head and neck region and the back: horses		30			2	<b>2</b>
Hoof correction and shoeing				15	1	<b>1</b>
Clinical biomechanics		15			1	<b>1</b>
Selected chapters of slice imaging anatomy in horses		15			1	<b>1</b>
Radiation protection education (Section 28 <i>StrSchVo</i> )		15		22	2.5	<b>2.5</b>

### 6.1.3. Large animal medicine

#### 6.1.3.1. Medicine of ruminants

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Case demonstrations		60			4	4
Clinical consultation/organ diseases		15		30	3	3
Veterinary medical management of the farm		60			4	4
Operation exercises				45	3	3
Diseases of the udder and mammary glands		15			1	1
Fertility disorders in cattle and small ruminants		30			2	2
Insemination in cattle		7		8	1	1
Large animal obstetrics				15	1	1
Diseases of the musculoskeletal system		15			1	1
Infectious diseases		22			1.5	1.5
Performance-based nutrition and dietetics		15		7	1.5	1.5
Animal welfare and animal husbandry		15			1	1
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours can be chosen from the courses listed in item 6.1.3.2. (**Medicine of Swine**), item 6.1.5. (**Medicine of Poultry, Caged Birds and Reptiles**) and item 6.3. (**Food Sciences and Public Veterinary and Health Services**). In addition, courses relevant to the medicine of ruminants can be chosen from the specialties **Clinical Veterinary Medicine – Zoo and Wild Animal Medicine** (item 6.1.4.) and **Reproductive Biotechnology** (item 6.2.2.).

### 6.1.3.2. Medicine of swine

<b>Compulsory courses</b>	academic hours					<b>Credits</b>
	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>LE</b>	<b>SH</b>	
Case demonstrations		60			4	4
Veterinary medical management of the farm and herd management		60			4	4
Organ and infectious diseases		30			2	2
Operation exercises				22	1.5	1.5
Fertility disorders and fertility management		30			2	2
Reproduction management		15		8	1.5	1.5
Advanced spermatology and semen conservation		7		8	1	1
Selected chapters in pathology		15			1	1
Performance-based nutrition and dietetics		22		8	2	2
Animal welfare and animal husbandry		30			2	2
Stable climate – methods and evaluation				15	1	1
Therapy concepts in swine production		15			1	1
Hygienic and technological aspects of pork production and processing		15			1	1
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours can be chosen from the courses listed below and/or from the specialties, **Clinical Veterinary Medicine – Medicine of Ruminants** (item 6.1.3.1.), **-Zoo and Wild Animal Medicine** (item 6.1.4.), **-Medicine of Poultry, Caged Birds and Reptiles** (item 6.1.5.), **Reproductive Biotechnology** (item 6.2.2.) and **Food Sciences and Public Veterinary and Health Services** (item 6.3.).

<b>Courses of choice</b>	academic hours					<b>Credits</b>
	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>LE</b>	<b>SH</b>	
Laboratory diagnostics : instruments, methodology and basics of interpretation		7			0.5	<b>0.5</b>
Advanced laboratory diagnostics: large animals		8			0.5	<b>0.5</b>
Cytological diagnostics: small animals, horses, large animals		15			1	<b>1</b>
Complementary medicine: large animals		30			2	<b>2</b>
Diagnostic imaging: large animals	15	15			2	<b>2</b>
Embryo transfer and associated techniques in large animals		7		8	1	<b>1</b>
Advanced spermatology, semen conservation and insemination: horses and large animals		7		8	1	<b>1</b>
Selected chapters in pathology in ruminants and swine		15			1	<b>1</b>
Calf illnesses		15			1	<b>1</b>
Udder and teat surgery				15	1	<b>1</b>
Stable climate monitoring				15	1	<b>1</b>
Selected chapters in animal hygiene			15		1	<b>1</b>
Endocrinology: large animals			30		2	<b>2</b>
Immune pathology: large animals		15			1	<b>1</b>
Radiation protection education (Section 28 <i>Str:SchVo</i> )		15		22	2.5	<b>2.5</b>

#### 6.1.4. Zoo and wild animal medicine

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Fundamentals of zoo and wild animal husbandry**	15				1	
Species protection		15			1	<b>1</b>
Clinical zoo and wild animal medicine	30	30			4	<b>4</b>
Zoonoses and emerging diseases	15				1	
Immobilisation and transport of wild animals				15	1	<b>1</b>
Advanced reproductive biology		15			1	<b>1</b>
Pathology of zoo and wild animals	30			22	3.5	<b>3.5</b>
Nutrition and feeding of zoo and wild animals		22			1.5	<b>1.5</b>
Chronobiology**		22			1.5	<b>1.5</b>
Fundamentals of wild animal biology**	30				2	
Physiologic adaptation to extreme environmental conditions		15			1	<b>1</b>
Biotelemetry 1**				15	1	<b>1</b>
Game hygiene		8			0.5	<b>0.5</b>
Wild animal management on an ecological basis		30			2	<b>2</b>
Wild animal genetics		30			2	<b>2</b>
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours are to be completed from the courses listed below. In addition, all other courses listed in item 6.1. (**Clinical Veterinary Medicine**) can be chosen. Where the courses marked with \*\* have already been taken as non-compulsory electives, the number of hours of courses of choice is to be increased accordingly.

Courses of choice Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Representation and analysis of scientific data in wild animal ecology		22			1.5	<b>1.5</b>
Excursions in wild animal ecology		30			2	<b>2</b>
Terrestrial and aquatic ecotoxicology**		45			3	<b>3</b>
Current topics in wild animal ecology**		30			2	<b>2</b>
Applied anatomy in zoo animals**		15			1	<b>1</b>
Advanced parasitology: zoo and wild animals		15			1	<b>1</b>
Tropical veterinary medicine		30			2	<b>2</b>
Parasitic tropical diseases			15		1	<b>1</b>
Biotelemetry 2**		15			1	<b>1</b>
Geographic information systems**		15			1	<b>1</b>
Rehabilitation and release of wild animals		22			1.5	<b>1.5</b>
Contraception in zoo and wild animals		15			1	<b>1</b>
Behavioural endocrinology in wild animals	30				2	
Radiation protection education (Section 28 StrSchVo)		15		22	2.5	<b>2.5</b>

### 6.1.5. Medicine of poultry, caged birds and reptiles

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Case demonstrations		60			4	4
Veterinary medical management of the farm and flock management: poultry		37		15	3.5	3.5
Infectious and multifactorial diseases of poultry – prophylaxis and therapy		52			3.5	3.5
Performance-based nutrition in poultry		15			1	1
Poultry production		15			1	1
Selected chapters in pathology: birds and reptiles		10		12	1.5	1.5
Animal husbandry and animal welfare: birds and reptiles		30			2	2
Advanced laboratory diagnostics: birds and reptiles			10	5	1	1
Advanced parasitology: birds and reptiles		8		7	1	1
Organ and infectious diseases: birds and reptiles		30			2	2
Anaesthesia and surgery: birds and reptiles		15		7	1.5	1.5
Illnesses due to husbandry and nutrition: birds and reptiles		15			1	1
Advanced diagnostic procedures: birds and reptiles		10		5	1	1
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours must be completed in the specialties, **Clinical Veterinary Medicine – Small Animal Medicine** (item 6.1.1.), **-Large Animal Medicine** (item 6.1.3.), **-Zoo and Wild Animal Medicine** (item 6.1.4.), **Food Sciences and Public Veterinary and Health Services** (item 6.3) or from the following selection of courses.

Courses of choice Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Histology in poultry**				15	1	1
Diagnostic imaging: birds and reptiles		15			1	1
Bee illnesses	15			15	2	2
Fish illnesses	30			15	3	3
Fish production and aquaculture**				15	1	1
Radiation protection education (Section 28 StrSchVo)		15		22	2.5	2.5

## 6.2. Medical biotechnology and animal biotechnology

### 6.2.1. Biomedicine and biotechnology

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Fundamentals of molecular biology	75				5	
Molecular biological exercises				30	2	2
Molecular quantification methods in biomedicine		15		15	2	2
EDP in molecular biology		7		8	1	1
Marketing/patenting		15			1	1
Fundamentals of gene therapy		15			1	1
Current topics in gene therapy and molecular virology			15		1	1
Clinical molecular virology			15		1	1
Molecular biology of viruses		30			2	2
Immunology and vaccination		15			1	1
Fundamentals of biotechnology	15				1	
Molecular genetics and biotechnology		15			1	1
Biotechnology and biomedicine of animals		15			1	1
Animal models in biomedicine		15			1	1
Advanced molecular genetics	15				1	
Molecular genetics and biomedicine		15			1	1
Advanced gene regulation		15			1	1
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours must be completed in the specialties, **Laboratory Animal Science**, **Experimental Medicine and Alternative Methods to Animal Experiments** (item 6.4.), **Reproductive Biotechnology** (item 6.2.2.) or **Clinical Veterinary Medicine** (item 6.1.).

## 6.2.2. Reproductive biotechnology

Compulsory courses Title	academic hours					Credits
	LE	CO	SE	LE	SH	
Biotechnology in animal breeding for the strengthening of breeding strategies in large animals and laboratory animals	30				2	
Endocrinologic and anatomical-physiological requirements for reproductive-biotechnological measures	30				2	
Follicle extraction				60	4	4
In vitro techniques	30			45	5	5
Associated reproductive techniques	15				1	
Artificial insemination procedures				15	1	1
Embryo extraction and embryo transfer				75	5	5
Cryobiological procedures in animal breeding	22			23	3	3
Legal, ethical and sociologic aspects	15				1	
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours must be completed in the specialties, **Clinical Veterinary Medicine** (item 6.1.), **Biomedicine and Biotechnology** (item 6.2.1.) or **Laboratory Animal Science, Experimental Medicine and Alternative Methods to Animal Experiments** (item 6.4.).

### 6.3. Food sciences and public veterinary and health services

<b>Compulsory courses</b>		academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>LE</b>	<b>SH</b>	<b>Credits</b>	
Fundamentals of food inspection		30			2	<b>2</b>	
Food inspection: practical execution and assessment				45	3	<b>3</b>	
Food and meat inspection laws		45			3	<b>3</b>	
Herd management/veterinary medical management of the farm		90			6	<b>6</b>	
Food of plant origin		30			2	<b>2</b>	
Hygiene and technology of food of animal origin		60			4	<b>4</b>	
Quality assurance		45			3	<b>3</b>	
Case studies		15			1	<b>1</b>	
Courses to be chosen from a limited selection*					9		
<b>Total</b>					<b>33</b>		

\*A further 9 semester hours are to be completed in the specialties, **Clinical Veterinary Medicine – Large Animal Medicine** (item 6.1.3.), and –**Medicine of Poultry, Caged Birds and Reptiles** (6.1.5.) and the following selection of courses.

<b>Courses of choice</b>		academic hours					
<b>Title</b>	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>LE</b>	<b>SH</b>	<b>Credits</b>	
Application of geographic information systems (GIS) in combating epidemics	15			15	2	<b>2</b>	

#### 6.4. Laboratory Animal Science, Experimental Medicine and Alternative Methods to Animal Experiments

Compulsory courses Title	academic hours				SH	Credits
	LE	CO	SE	LE		
Fundamentals of laboratory animal science		15			1	1
Biology and physiology in laboratory animals		15			1	1
Husbandry and care of laboratory animals		60			4	4
Illnesses and zoonoses		30			2	2
The laboratory animal as animal model		30			2	2
Legal basis		15			1	1
Anaesthesia, euthanasia, organ extraction	30			30	4	4
Breeding of laboratory animals, mutants and transgenic animals		30			2	2
Planning, carrying out and evaluation of animal experiments		15			1	1
Animal experiments in toxicology and pharmacology		30			2	2
Immunology		15			1	1
Alternative and complementary methods		45			3	3
Courses to be chosen from a limited selection*					9	
<b>Total</b>					<b>33</b>	

\*A further 9 semester hours must be completed from the specialties, **Clinical Veterinary Medicine** (item 6.1.) or **Medical Biotechnology and Animal Biotechnology** (item 6.2.).

## 7. Compulsory elective courses

The courses, **Animal Behaviour and Handling of Domestic Animals** (2 SH) and **First Aide in Animals** (1SH), must be completed after successful completion of the examinations listed in items 3.4.1. and 3.4.2. and before beginning the third stage of studies.

The course, **Business Management and Practice Management** (2 SH), must be completed after passing the examinations listed in items 3.4.1. and 3.4.2. and before completion of the course of studies.

Compulsory elective courses	academic hours					Credits
	LE	CO	SE	LE	SH	
Animal behaviour and handling of domestic animals	7			23	2	2
First aide in animals	13			2	1	1
Business management and practice management	15		15		2	2

## 8. Externship

According to Annex 1 Paragraph 4 of the Law Regulating Study at Austrian Universities (*Universitätsstudienengesetz, UniStG*), students of the degree programme, Veterinary Medicine, are to complete 26 hours of externship. This externship does not denote courses as defined in Section 7 *UniStG*.

Externships are to constructively complement professional pre-education or scientific education and serve the acquisition of skills as well as the preparation for future career practice.

Students are not permitted to participate in courses during the completion of their externships.

18 weeks' externship are to be completed at the following institutions:

- 4 weeks of food inspection at a slaughterhouse following completion of all courses of basic training in Food Sciences and Public Veterinary and Health Services;
- 10 weeks' externship in the chosen specialty following successful completion of the examination listed in item 5.4.4.;
- 4 weeks' externship with a veterinarian, in the teaching hospital of the University of Veterinary Medicine or a similar institution of the student's choice following successful completion of the examination listed in item 5.4.3.;

8 weeks' externship can be completed at the following institutions by choice:

- 2 weeks' agricultural externship at the Teaching Farm of the University of Veterinary Medicine following successful completion of the examinations listed in items 3.4.1. and 3.4.2.;
- 2 to 6 weeks of externship following completion of the relevant examination and courses from a subject of the second stage of studies, from Fish and Bee Sciences, from Zoo and Wild Animal Sciences or from Laboratory Animal Sciences, but not before successful completion of the examinations listed in item 4.4.;
- 2 to 6 weeks of externship with a veterinarian, in the Teaching Hospital of the University of Veterinary Medicine or a similar institution of the student's choice following successful completion of the examination listed in item 5.4.3.;

Students are recommended to complete at least parts of the externship at appropriate institutions abroad.

Externs are required to draw up an externship report in which they describe events, duties and knowledge gained.

## **9. Interim regulations**

The curriculum in its version of September 16, 1996 (annex to the information leaflet of the University of Veterinary Medicine, Vienna, leaflet 26) is applicable to students who have begun their studies before this curriculum has come into effect. Once this curriculum has come into effect, students have the right to complete any stage of studies which had not yet been completed, in a period of time correlating to the legal duration plus one semester. If a stage of studies is not completed within the period stipulated, the student's studies become subject to the new curriculum. Aside from this, students have the right to voluntarily switch to the new curriculum at any time.

The recognition of study performance between the curriculum version of September 16, 1996 and the curriculum at hand is carried out according to equivalence lists in item 11.

## **10. Date of effectiveness**

The curriculum comes into effect on the 1<sup>st</sup> of October following its announcement. The first stage of studies will be offered as of October 1, 2002. The second stage of studies as of October 1, 2003 and the third stage of studies as of October 1, 2005.

## 11. Equivalence list

### 11.1. Equivalence of courses

The compulsory courses of the subjects of examination in the curriculum of 1997 are equivalent to the compulsory courses of the subjects of examination of the new curriculum according to the equivalence list for examinations (10.2). Courses with exercise character (EX, CO, SE) are recognised according to the following equivalence list for courses.

<b>Equivalence list – courses</b>	
<b>Former curriculum</b>	<b>New curriculum</b>
Exercises in Med. Physics and Exercises in Biomathematics	Exercises in Med. Physics, Fundamentals of Statistical Procedures (CO), Fundamentals of Epidemiologic Models (CO)
Exercises in Med. Biochemistry I + II	Exercises in Med. Biochemistry
Anatomical Preparation Exercises I	Exercises in Systematic Anatomy
Anatomical Preparation Exercises II and Topographic Anatomy II (CO)	Exercises in Topographic Anatomy and Exercises in Radiographic Anatomy
Exercises in Histology and basic Embryology + Exercises in microscopic Anatomy and Embryology	Histological exercises and Exercises in Embryology
Exercises in Physiology	Exercises in Physiology
Bacteriologic Exercises and Excursion in Animal Hygiene	Exercises in Bacteriology
Virologic Exercises	Exercises in Virology
Parasitologic Exercises	Exercises in Parasitology
Botanical Exercises with Hay Analysis	Exercises in Botany and Pharmacognosy
Exercises in Animal Nutrition	Exercises in Animal Nutrition
Pharmaceutical Exercises and Prescription- writing	Exercises in Pharmacology
Exercises in Animal Breeding and Genetics	Exercises in Animal Breeding and Genetics
Excursion in Animal Husbandry and Animal Welfare	Excursion in Animal Husbandry, Animal Welfare and Milk Hygiene
Exercises: Hygiene of Milk Production Exercises: Slaughter Animal, Meat and Food Inspection I	Quality Assurance and Risk Assessment of Foodstuffs (CO)
Exercises: Slaughter Animal, Meat and Food Inspection II	Exercises in Meat Inspection
Exercises in Basic Clinical Propaedeutic I + II	Exercises in Clinical Propaedeutic
Exercises in Advanced Clinical Propaedeutic	Exercises: Fundamentals of Surgical Work + Laboratory Diagnostics (CO) and all exercises of the block, Emergency Medicine
Clinical Rotations I + II	Clinical Rotations
Pathohistologic Exercises	Pathohistologic Exercises
Pathologic-anatomical Exercises	Pathologic-anatomical Exercises
Dissection Exercises	Pathology portion of Case Demonstrations of the various specialties
Exercises in Diagnostic Imaging I + II	Diagnostic Imaging (CO)
Operation Exercises	Exercises in Small Animal Surgery (specialty, Small Animal Medicine)
Orthopaedic Operation Exercises	Orthopaedic Operations (specialty, Equine Medicine)

## 11.2. Equivalence of examinations

In transition from the study regulations according to the curriculum of 1994 (Law Regulating Veterinary Medical Studies, *Veterinärmedizin-Studiengesetz, VetMed-StG* 1993), to the study regulations 2002 (UniStG 1997), examinations are recognised according to the following equivalence list.

<b>Equivalence list – courses</b>	
<b>Former curriculum</b>	<b>New curriculum</b>
Pre-examination Zoology and Pre-examination Animal Science	Commissional Joint Examination in Zoology and Animal Science (Item 3.4.1.)
Pre-examination: Fundaments Med. Physics and Pre-examination: Fundaments Med. Biochemistry	Comm. Joint Examination in Fund. Med. Physics and Fund. Med. Biochemistry (Item 3.4.2.)
Med. Biochemistry Med. Physics	Commissional Joint Examination in Med. Biochemistry & Med. Physics (Item 3.4.3.)
Anatomy and Histology and Embryology and Physiology	Commissional Joint Examination in Functional Propaedeutic (Item 4.4.1.)
All 4 pre-examinations	All courses and examinations of the first semester (Item 3.4.1. and 3.4.2.)
First Diploma Examination	All courses and examinations of the 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> semesters (Item 3.4. and 4.4.1.) and parts of the examination in Basic Pathology, Immunology and Animal Breeding specific for Animal Breeding
Bacteriology and Hygiene and Virology and Parasitology	Comm. Joint Examination in Bacteriology, Virology and Parasitology (Item 4.4.2.)
Botany and Nutrition and Pharmacology	Comm. Joint Examination in Animal Nutrition, Botany and Pharmacognosy as well as Pharmacology and Toxicology (Item 4.4.3.)
Basic Pathology Animal Breeding and Genetics	Comm. Joint Examination in Basic Pathology, Immunology and Animal Breeding and Genetics (Item 4.4.4.)
Food Hygiene Animal Husbandry and Animal Welfare	Comm. Joint Examination in Food Sciences and Public Vet. And Health Services and Animal Husbandry and Animal Welfare (Item 4.4.5.) and Exercises in Meat Inspection
All exams according to Section 11 para. 1-8 and exams in Animal Breeding and Genetics and Food Hygiene	All courses and examinations of the second stage of studies (Item 4.4.) and Exercises in Meat Inspection
Successful completion of Exercises in Basic Clin. Propaedeutic I + II	Examination in Clinical Propaedeutic (Item 5.4.1. and Item 5.4.2.)

Comparing equivalence of examinations according to Section 11 (1) para. 9-15 and para. 17-19 with the examinations of the third diploma examination according to the new curriculum is not possible. Students who have successfully completed all compulsory courses according to the former curriculum must be allowed to finish their studies according to the former curriculum. The elective courses required by the former curriculum in the second stage of studies in the amount of 24 week hours can be chosen from the specialties of the new curriculum. Of these, 12 week hours must be chosen from a specialty of related topic.

## 11.3. Equivalence of externships

Externships which have already been concluded according to the former curriculum are recognised to the corresponding extent for the new curriculum.

## **Appendix 1**

**Degree Programme: Veterinary Medicine**

**Graphic Overview**

**First and second semester**

<p><b>Orientation phase</b>  <b>Pre-examination subjects (Animal science, Zoology, Medical Physics, Medical Biochemistry)</b>  <b>Specialised terminology</b></p>	<p><b>W</b>  <b>C</b>  <b>JE</b></p>	<p>Fundamental subjects of natural sciences (Medical Physics, Medical Biochemistry, Biomathematics)  <b>Botany</b>  <b>Immunology</b>  <b>Scientific Theory</b></p>	<p><b>O</b>  <b>C</b>  <b>JE</b></p>
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**Third and fourth semester**

<p>Functional Propaedeutic (Anatomy, Histology &amp; Embryology, Physiology)  <b>Propaedeutic Imaging</b></p>	<p><b>O</b>  <b>C</b>  <b>JE</b></p>
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**Fifth and sixth semester**

<p><b>Bacteriology</b>  <b>Virology</b>  <b>Parasitology</b></p>	<p><b>W</b>  <b>C</b>  <b>JE</b></p>	<p><b>Animal nutrition</b>  <b>Botany &amp; Pharmacognosy</b>  <b>Pharmacology &amp; Toxicology</b></p>	<p><b>W</b>  <b>C</b>  <b>JE</b></p>	<p><b>Immunology</b>  <b>Basic Pathology</b>  <b>Animal Breeding</b></p>	<p><b>W</b>  <b>C</b>  <b>JE</b></p>	<p><b>Food sciences and Public Health Services</b>  <b>Animal Husbandry &amp; Animal Welfare</b></p>	<p><b>W</b>  <b>C</b>  <b>JE</b></p>
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**Seventh and eighth semester**

Functional Pathology Clinical Propædeutic	<b>O</b> <b>C</b> <b>E</b>	Organ, Metabolic and Infectious Diseases	Emergency medicine	Epidemiologic Medicine	<b>W</b> <b>C</b> <b>JE</b>
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**Ninth and tenth semester**

Clinical Pharmacology Clinical Rotations	<b>O</b> <b>C</b> <b>JE</b>	Epidemiology Regulatory Framework of Vet.Med. Forensic Vet.Med. Exercises in Meat Hygiene	Specialised Education	
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**Eleventh and twelfth semester**

Specialised Education	<b>O</b> <b>C</b> <b>E</b>	Externship Diploma thesis	
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**O**=oral; **W**=written; **C**=commissional; **E**=examination; **JE**=joint examination

## Appendix 2

Recommendations for participation in non-compulsory elective courses

<b>Non-compulsory electives*</b>	academic hours					<b>Credits</b>
	<b>LE</b>	<b>CO</b>	<b>SE</b>	<b>LE</b>	<b>SH</b>	
Fish sciences	22			8	2	<b>2</b>
Bee sciences	15			15	2	<b>2</b>
Advanced and conversational English				30	2	<b>2</b>
English for clinical medicine				30	2	<b>2</b>
History of medical sciences with emphasis on veterinary medicine	15				1	<b>1</b>
Scientific presentation				15	1	<b>1</b>
Social competence			15		1	<b>1</b>
Project design and application for research projects		15			1	<b>1</b>
Continuation course for female executives			30		2	<b>2</b>
Introduction to EDP user programmes			15		1	<b>1</b>
Animal welfare ethics and Human-animal relations		15			1	<b>1</b>

\*Further non-compulsory electives can be found in the relevant lecture timetable.