THE FACULTY OF VETERINARY MEDICINE
OF THE LATVIA UNIVERSITY OF AGRICULTURE

Self-Evaluation Report
Stage one (SER 1)

Jelgava
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List of Abbreviations

CP –	Credit points
EAEVE –	European Association of Establishments of Veterinary Education
ERDF –	European Regional Development Fund
EU –	European Union
Farm Vecauce –	The Teaching and Research Farm of the Latvia University of Agriculture „Vecauce”
FL -	The Fundamental Library of the Latvia University of Agriculture
FTE –	The full time equivalent of staff a member
LLU –	Latvia University of Agriculture
LVB –	Association of Veterinarians of Latvia
MMK -	Study Methodical Commission
NOVA-BOVA –	Nordic-Baltic network in Agricultural, Forestry and Veterinary sciences
OIE –	World Organisation for Animal Health
PVD –	Food and Veterinary Service
RCM –	Regulations of the Cabinet of Ministers of Latvia
RP –	Clinical Rotation Praxis
VIC –	Veterinary Educational Centre
VH –	Veterinary Hospital of the Latvia University of Agriculture
VMF –	Faculty of Veterinary Medicine

INTRODUCTION

The self-evaluation report is prepared for the forthcoming visit by European Association of Establishments for Veterinary Education (EAEVE) on 7-11 November, 2016.

Please provide an outline of the main features of the history of the Establishment in the period since the last evaluation Visitation or, if there has not been a previous Visitation, in the last ten (10) years.

The Faculty of Veterinary Medicine (VMF) of the Latvia University of Agriculture (LLU) is the only establishment for higher veterinary education in Latvia. For the first time veterinary education in Latvia was established in 1919, when the University of Latvia was created soon after Latvia became an independent state (on 18 November 1918). In 1944 the VMF was included into the Latvian Academy of Agriculture (at present Latvia University of Agriculture). Since 1964 the VMF is situated in Jelgava, the present site.

The VMF delivers 3 study programs: professional study program in veterinary medicine; master degree study program in food hygiene; and doctoral study program in veterinary medicine.

All three programs are licenced and accredited by national authorities till 2019.

LLU gives the high priority to the quality and development of the education of veterinarians.

The main organisational changes.

In 2013 the reconstruction of the Veterinary Hospital of the Latvia University of Agriculture (VH) was finalised in the frame of the ERAF program. Now the VMF has a Hospital with 3 separated and well equipped clinics: Small Animal Clinic, Productive Animal Clinic and Equine Clinic. From the year 2016 there is the Scientific Laboratory of Molecular Biology and Microbiology placed in the facilities of the VMF.

The new regulations relating to teaching.

At present, the following laws regulate higher education and scientific research activities in Latvia:

- **The Education Law** (http://likumi.lv/doc.php?id=50759)
- **The Law on Institutions of Higher Education** (http://likumi.lv/doc.php?id=37967), which describes the main principles of the operation of institutions of higher education in Latvia, and on the basis of which is elaborated the Constitution of the University
- **The Law on Regulated Professions and Recognition of Professional Qualifications** (http://likumi.lv/doc.php?id=26021), which describes the requirements for the regulated professions
- **Vocational Educational Law** (http://likumi.lv/doc.php?id=20244)
- **The Law on Scientific Activities** (http://likumi.lv/doc.php?id=107337), which describes the main principles of the management and the financing of the scientific activities in Latvia, introduces the requirement of the international evaluation of the quality of the management of the institutions performing scientific research.

According to the legislation the LLU has developed its internal rules (http://eng.llu.lv/?ri=4631).

The new buildings or major items of equipment.

During the last 10 years considerable improvements are made to modernize the facilities and equipment of the VMF so raising the teaching quality. A new VH, ~4430 square meters, consisting of a Small Animal Clinic, an Equine Clinic and a Productive Animal Clinic was opened in 2013. There are surgery and internal medicine blocks, hospitalization and isolation facilities. Clinics are equipped with up-to-date equipment (e.g. for visual diagnostics etc.). The project costs were **~ 5.3 million EUR** co-financed both by the European Regional Development Fund (ERDF) and by the LLU. In 2015 another large building and reconstruction project have been finished and a new Laboratory of Comparative Pathology, Laboratory of Molecular Biology and Microbiology were put in operation. The project costs were **~ 1.6 million EUR** and were co-financed both by the ERDF and by the LLU. The new premises ensure high standards of human and animal welfare. Several smaller investments during the last 10 years have been done by the Latvian Ministry of Agriculture allowing purchase of

modern equipment for teaching and scientific laboratories and furniture for the VH (~ **1.372.593 EUR).**

The main changes to the study programme.

The study program has been significantly revised in 2009/2010, when the number of non-European Union (EU) study courses were minimized (e.g. philosophy, history); the number of ECTS was reduced in several other courses that are not directly related to the veterinary medicine (foreign language, inorganic and organic chemistry, biometric basics).

Starting from the study year 2014/2015 more major changes were introduced in the new curriculum - the Clinical Rotation Praxis, increasing the amount of intramural training in the VH and system of State Exams was changed to emphasize the control of First Day skills and case analysis; but from the year 2016/17 the study course "Anaesthesiology and Emergency Care" is separated from the "Operative Surgery" as an enforced study course.

Important decisions made by the management of the Establishment, or by the authorities responsible for it.

Form the study year 2008/2009 the Ministry of Education due to the economic situation decided to reduce the governmental financing for all study programs for 15%, which means that the government ensures only 85% of the minimal costs of each state financed study place defined in the RCM No. 994 of 2006 "Procedures for the Financing of Institutions of Higher Education and Colleges from the Funds of the State Budget" (http://likumi.lv//ta/id/149900?&search=on). This still complicates the financial situation of the LLU. However from the study year 2014/15 with the start of the Rotation Praxis, the LLU already found the possibilities slightly increase the coefficient for the calculation of teachers staff places in clinical study courses, so increasing the number of staff places in the Clinical Institute of the VMF (see also Ch.10).

In 2015/2016 VMF started to provide teaching of veterinary undergraduate program in English for international full time students. So, the teaching environment becomes more international.

According to the Strategy of LLU (http://www.llu.lv/getfile.php?id=96056) the improvement of the research quality became a high priority. One of the measures already introduced is a stimulation of research performance of academic staff and researchers by material stimulation. Since the year 2015 researchers of high quality scientific research results and publications are granted with extra payment.

Major problems encountered by the Establishment, whether resolved or not

EAEVE evaluation visit to VMF took place in 2003 and the revisit in 2009. Although a considerable progress was recognized, some problems still were considered as remaining resulting in non-approval of the VMF. LLU and VMF were very serious about this, the action plan had been prepared for the years 2010-2016, large investments and program developments had been performed accordingly (http://www.vmf.llu.lv/veterinarmedicinas-fakultates-ricibas-plans-2010-2016-gadiem).

Taking into account the latest dynamic developments of the VMF (even it is clear that it is never ending process) we believe that the main problems identified by EAEVE experts during last visits now are fully or largely solved.

In 2003 there were five Category 1 suggestions in the report:

1. **Increase the amount of practical/clinical training, based upon „hands on" training by decreasing the number of lectures** – partly this issue was solved already before the visitation of 2009, but from the year 2011 there is new Curriculum with the reduced number of lectures and several adoptions to have more possibilities for students to have "hands on" clinical training, the program is under regular improvement, e.g. recently there is change devoting more time for training in the anaesthesiology and emergency care. Besides this, with the new VH built, the number of patients has increased; the Clinical Rotation praxis is introduced; the simulation laboratory is under development. For the better control of clinical skills – the note book of performance of clinical manipulations is introduced.

2. **Develop the provision of full-scale 24hour emergency service on the VMF site, on a regular basis, incorporating duty veterinarians for small and large animals and duty schemes for students, so that both an increased availability of cases can be obtained for the students' clinical training. In addition it would enable the school to provide adequate Professional surveillance during hospitalisation of cases at the premises** – introduced already till re-visitation of

2009, but further developed after the new VH was opened (for all animal species, including a Mobile clinic service for large animals) in 2012.

3. **Create isolation facilities for infected small and large animals –** introduced both for small and large animals already till the re-visitation of 2009. Since 2012 there are new fully equipped isolation facilities in the newly built VH both for large and small animals.

4. **Increase by all possible means the availability of large animal caseloads for teaching students, including pasturing the min the grounds of the VMF** –

- introduced Clinical Rotation praxis;
- introduced intramural praxis in the farm „Vecauce" – the new Veterinary clinical block is built and equipped there with two permanently working vets, one of whom is a teacher employed by the LLU; the farm is used also for the Rotation Praxis for large animals;
- developed a concept of Mobile Clinic with an availability of a multidisciplinary consultation team as well;
- concluded agreements with the private practitioners to increase caseloads of large animals for students.

5. **The University and the Faculty must rectify the problem of insufficient numbers of teaching staff in some key areas, notably in animal production and veterinary public health subjects, and in practical/clinical teaching generally** – increased the number of teaching staff for the clinical subjects in the Clinical Institute and in the VH, thanks to a better income from clinical services; introduced a veterinarian/teacher in the farm "Vecauce"; used the ERASMUS + program, Latvian – Switzerland project etc. for the financing of guest lecturers.

Chapter 1 – OBJECTIVES

1.1 FACTUAL INFORMATION

Indicate whether there is an official list of the overall objectives of the Establishment.

The objectives of the veterinary training in the VMF is similar as for all such kind of teaching establishments in the EU: to provide adequate, research-based veterinary training that enables a new graduate veterinarian to enter all commonly recognised branches of the veterinary profession immediately on graduation or of being capable of performing adequately after a generally accepted period of practical experience. The Veterinary Medicine study program as a whole and its study courses/subjects are formed according to the requirements outlined in Directive of European Parliament (EP) and Council 2005/36/EC "On the recognition of professional qualifications" amended by Directive of EP and Council 2013/55/EU. The World Organization for Animal Health (OIE) Guidelines on Veterinary Education Core Curriculum (http://www.oie.int/Veterinary_Education_Core_Curriculum.pdf) and OIE recommendations on the Competencies of graduating veterinarians - 'Day 1 graduates' (http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/Vet_Edu_AHG/DAY_1/DAYONE-B-ang-vC.pdf) are taken into account as well.

Big attention is paid to introduce training elements covering the first day skill concept.

The LLU has the Strategic Development Plan for the years 2015-2020 which includes the Research Program (http://www.llu.lv/getfile.php?id=96056). During the preparation process it was discussed with cooperation partners, stakeholders, employers. For the purpose to reach the international standards both in the education and research fields the LLU has formed the Advisory Board consisting of foreign experts, who were involved in the preparation of the LLU Strategy as well. This strategy document of the LLU includes Vision, Mission, Objectives, and Values of the University.

Vision of the LLU is to be one of the leading universities of science and technologies in the Baltic See region, specializing in the sustainable use of natural resources aimed at the enhancement of quality of life for society.

The LLU mission is to develop competitive intellectual capital on the basis of excellence in research, application of research findings, and high quality of education and effective management of the university.

The long term objectives are:

- excellence in research, resulting in creation of new technologies and innovations for effective practical use and integration in the educational process;
- high quality of teaching, which leads to internationally competitive graduates;

- effective governance of the University with the aim to perform high quality studies and excellent research results on the basis of purposefully and expediently used available resources.

The mission of the VMF is to provide modern, science based, ethical veterinary medicine education; to carry out scientific and consultative work on the actual professional topics (Self-evaluation Report of the LLU for the accreditation of the study direction "Agriculture, Forestry, Fishing, Veterinary Medicine and Food Hygiene", 2014).

If this is the case, please indicate these.

VMF is permanently looking for new possibilities to improve the level of education and to follow the new developments of veterinary medicine science and practise to introduce actual topics in the study programs. E.g. veterinarians are taught to understand the principles of the common EU market and the responsibility of veterinarians in the trade with animals and animal origin products. Modern animal husbandry requires a very systematic and effective approach to the herd health management, planning, preventive measures, biosafety, access to laboratory services etc. Implementation of the concept "from stable to table" with the aim to guaranty that only safe food is placed on the market requires serious involvement of adequately trained veterinarians. Another concept "One health" gives more opportunity to veterinarians to work together with physicians in the area for prevention of zoonosis, together building contingency plans for readiness in case of emerging diseases. A specific topic is to fight against antimicrobial resistance. So, graduates have to obtain necessary knowledge, skills, competence and be ready to work in teams and make professionally independent decisions.

Who determines the official list of objectives of the Establishment? By what procedure is this list revised? If there is no official list, please indicate the objectives that guide the Establishment's operation.

The LLU develops a Strategy for 6 years and it includes also the main objectives of all faculties. Every year all faculties prepare reports on the developments and if necessary propose any changes or adaptions for the strategy plan of the LLU. Besides this, the Faculty has its own main elements of the strategy prepared on the basis of the self-evaluation external evaluations/accreditations reports; as well as on internal SWOT analysis, accepted by the Council of the VMF.

Do you have a permanent system for assessing the achievement of the establishment's general objectives? If so, please describe it.

As is mentioned above every year all faculties of the University prepare self-evaluation reports in relation to the Strategy of the LLU (planned scientific research projects, publications, the number of students and graduates etc.). In case the tasks are not reached, the reasons for that are analysed.

1.2 COMMENTS

In your view, to what extent are the objectives achieved? What, in your view, are the main strengths and weaknesses of the Establishment?

The VMF has remarkable success in achieving the main objectives and has plans for the future developments. In 2016 the VMF has upgraded its **SWOT analysis** (see below).

Strengths:

- Renewed academic staff and administration of the VMF with the scientists of a young generation, having a lot of enthusiasm for improvements.
- Improved qualification of the academic and teaching staff with more persons holding a Doctoral degree and international experience; foreign language skills.
- Modern Hospital facilities and equipment of the VMF.
- Possibilities to use the farm "Vecauce" with a newly built so called Veterinary block for practical training in animal husbandry and clinical training.
- Relatively small faculty, what allows to organise the laboratory and clinical work in small student groups, to have more individual approach.
- Good geographical location with a good transport infrastructure (in the central part of Latvia, close to the capital and main airport), what allows easy access.

- Stable number of the state financed study places.
- The National accreditation system of the LLU study programmes envisages the inclusion of foreign experts, what ensures internationally compatible evaluation practises.
- Academic staff of the Clinical Institute of the VMF is involved in the clinical work both in the VH and in other Clinics as well.
- Enthusiastic personnel.
- Students and academic staff have good access to different scientific databases.

Weaknesses:

- Insufficient number of highly qualified professors and associate professors in some areas of veterinary medicine, e.g. in clinical sciences.
- Relatively low salaries for academic, scientific and supporting staff in comparison with average salary scales in the country.
- Not enough flexible financing system.
- Too low government founding for state financed study places.
- Lack of the status of EAEVE approved school.

Opportunities:

- Stable number of student admission despite the fact that the overall number of applications to universities in Latvia is decreasing due to less graduates from secondary schools.
- Interest of foreign students to study Veterinary Medicine in Jelgava because of good study opportunities and modern clinical infrastructure.
- Stable need for qualified newly graduated specialists in the country.
- The only Veterinary school in Latvia.
- Plans to develop further postgraduate education programs for veterinarians.
- Good co-operation with stakeholders: LVB; PVD; Universitātes Vetfonds Ltd.; Ministry of Agriculture, Riga Stradiņš University (human medicine) etc.
- Long and productive co–operation and exchange of experience with the University of Veterinary Medicine Hannover, University of Helsinki – Faculty of Veterinary Medicine, Swedish University of Agricultural Science – Faculty of Veterinary Medicine and Animal Science, University of Copenhagen – Faculty of Health Sciences, University of Liege – Faculty of Veterinary Medicine and Michigan State University.

Threats:

- Inconsistency of the legislation in the field of educational, research, veterinary activities, what does not support fast enough development.
- In-competitiveness of salaries compared to average level in the EU.
- Decreasing number of productive animals in agriculture in Latvia.
- Too low basic national funding for the science in general and in the veterinary field particularly.
- Medium to low level of preparedness of newly admitted students entering the study program „Veterinary Medicine" resulting in relatively high drop-out rate.
- Emerging epidemiological risks e.g. African swine fever.

1.3 SUGGESTIONS

If you are not satisfied with the situation, please list your suggestions for change in order of importance and describe any factors which are limiting the further development of your Establishment.

Last decade was a time for large reconstructions and change. The new VH was built; generations of teaching staff have been changing. It was time of big challenges. For the future there are suggestions to further develop the Curriculum for better co-operation with the academic staff of other faculties, e.g. the field of animal husbandry. It is very important to increase staff members, what is possible only in case the financing is increased also for the salaries of the staff. It would also mean the reduction of working hours and would give more time for scientific research. It is essential to increase the basic financing of research. There are ongoing activities together with the LVB to work out a Latvian national veterinary specialisation program for different animal species.

Chapter 2 - ORGANISATION
2.1 FACTUAL INFORMATION

Details of the establishment.

The VMF (http://www.llu.lv/en/faculty-of-veterinary-medicine; www.vmf.llu.lv) is one of the eight faculties of the LLU (http://www.llu.lv/en/). It is a complex of free-standing units, specifically established for the purpose.

Name: The Faculty of Veterinary Medicine (VMF) of the Latvia University of Agriculture (LLU)
Address: Kristapa Helmaņa iela 8, Jelgava, LV-3004, Latvija
Telephone: +371 630 24662
Website: www.llu.vmf.lv

Title and name of the head of the establishment.

Dean of the VMF: Associate Professor Ilmārs Dūrītis, Dr. Med.Vet.

Is the Establishment within a university? If so, please give address of the university.

Address of the LLU: Lielā iela 2, Jelgava, LV-3001, Latvija

Details of the competent authority overseeing the Establishment.

The LLU is a higher educational and scientific research establishment, a university of national significance in the field of rural development, food technology and safety, forestry that ensures intellectual potential for rational and sustainable use of Latvian natural resources, life sciences. The LLU is financed and overseen via the Ministry of Agriculture. General policy in the field of education is in the hands of the Ministry of Education and Science.

Indicate the rules concerning the appointment of the elected officials of the Establishment (e.g. Dean, Vice-Dean, Heads of Department, etc.)

Elections of the Dean of the faculty, the Directors of the Institutes are carried out according to the election procedure accepted by the Senate of the LLU (Decision No. 8-45 of 12.02.2014 (http://www.llu.lv/sites/default/files/2016-05/LLU_Velesanu_nolikums_administrativajos_amatos_2014.pdf**).** Call for expressions of interest for the position of the Dean, the Director of an institute is announced by the order of the Rector of the LLU.

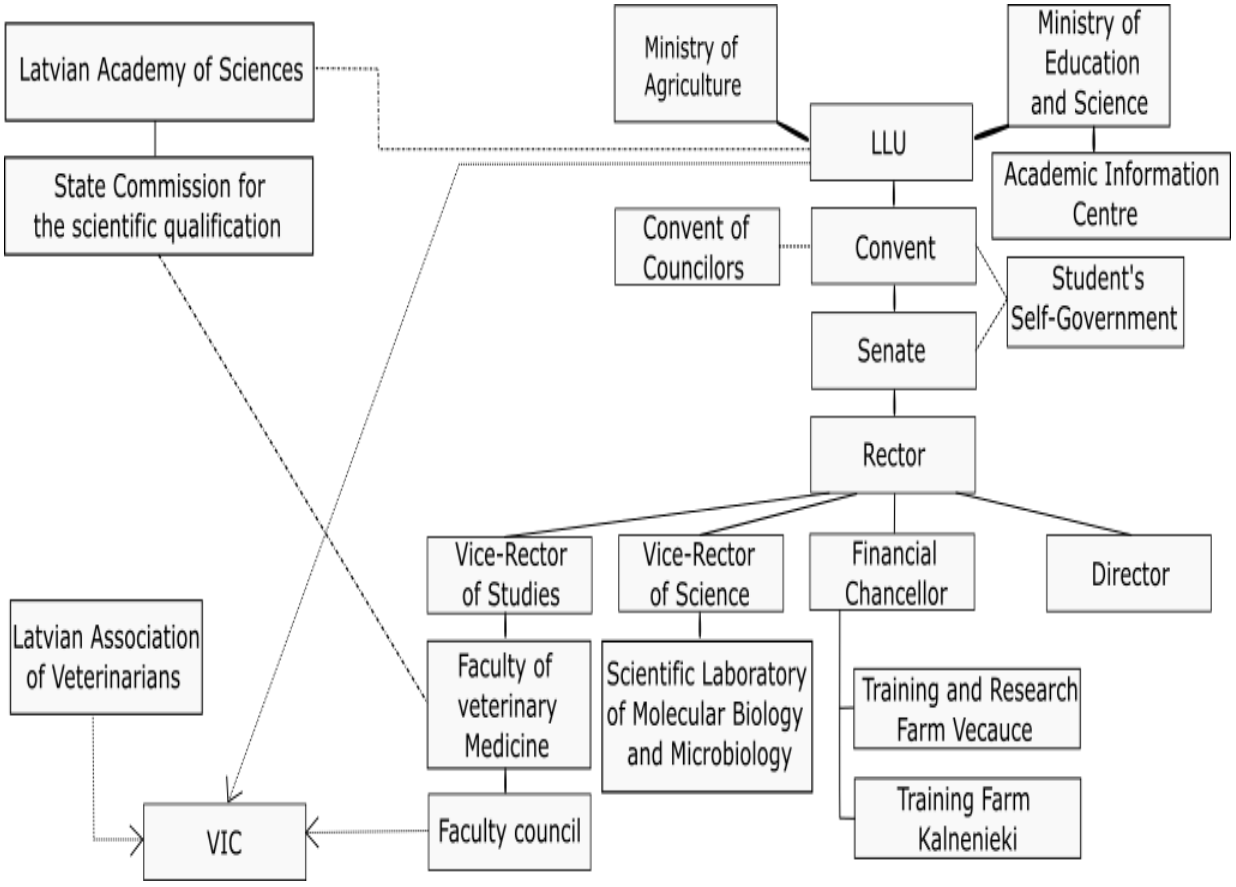
The candidate for the post of the Dean and the candidate for the post of a Director of an Institute are nominated by the structural units of the VMF at their academic staff meetings or general meetings of the personnel and by the student self – government organisation and elected by the Council of the VMF. The Candidate must be a professor, associate professor or an assistant professor (docent) of the LLU. The lists of the candidates are announced at least 10 days before the elections. There is secret

ballot. The Dean and Directors of the Institutes are elected for 5 years and accepted by the Senate of the LLU, could be re-elected for a second term of 5 years.

Vice – Dean and heads of various committees (e.g. Study Methodological Commission (MMK)) are appointed by the Dean and confirmed by the Council of the Faculty.

Provide a diagram of the administrative structures showing the Establishment in relation to the university and ministerial structure of which it is part.

Diagram 2.1: The administrative structures showing the place of the VMF in the system of the University and related bodies.

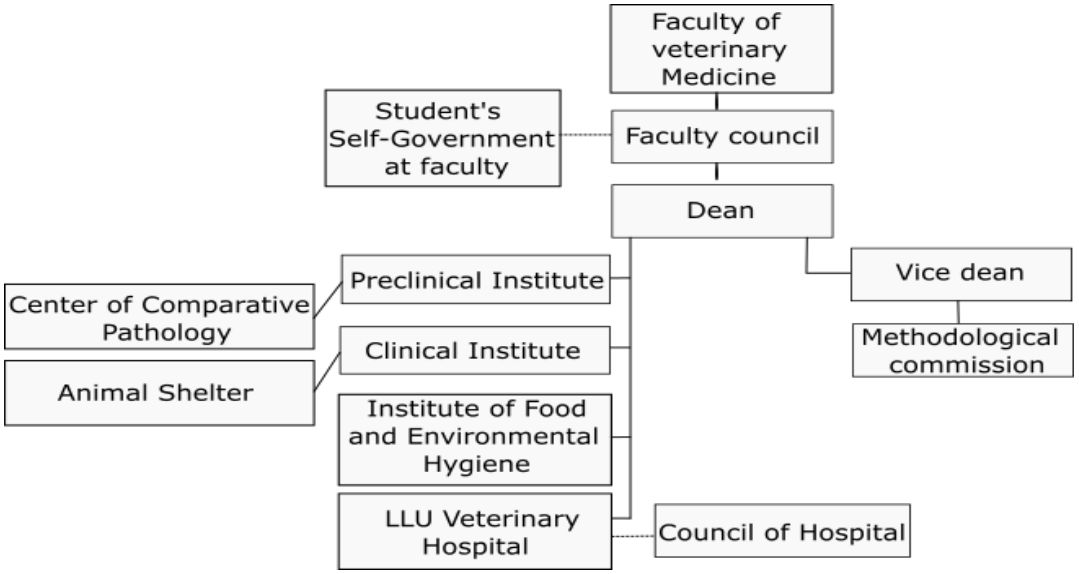


_____ Direct subordination

…….. Relations, indirect subordination

Provide a diagram of the internal administrative structure of the Establishment itself (councils, committees, departments, etc.)

Diagram 2.2: The internal administrative structure of the VMF.



Describe, briefly the responsibilities, constitution and function of the main administrative bodies (councils, committees etc.)

The VMF and its structural units are formed and reorganised by a decision of the LLU Senate on the proposal of the Council the Faculty. The activities of the VMF are leaded by the Council of the Faculty; the Dean, the Directors of the Institutes and the VH.

The Council of the Faculty is the supreme decision making body of the VMF. It consists of all elected professors and associated professors; the Dean; 2-3 members of academic/supportive staff nominated by each structural unit of the VMF for a period of 3 years; the students not less than 20% of the total number of the members of the Council, elected by students self-governing body. The Faculty Council may invite for the meetings representatives of relevant stakeholder organisations and individual experts (e.g. from scientific establishments, PVD, veterinary practitioners etc.). The Council is chaired by the Dean of the VMF. The Council of the Faculty:

- adopts the strategic documents of the VMF;
- elects (secret ballot) the Dean; the secretary of the Council; the Directors of the Institutes, docents (assistant professors), lecturers and assistants;
- takes decisions on the teaching and research issues;
- proposes study programmes for confirmation at the LLU Senate;
- adopts the priority directions of the research of the VMF;
- accepts research projects with co-financing form the VMF budget;
- accepts the basic principles of the usage of material resources, their distribution among structural units of the VMF;
- proposes to the LLU Senate for acceptation the plans for the reorganisation or abolishing of the VMF structural units;
- decides on the other items important for the VMF, which are not in the competence of other LLU bodies.

The Dean of the Faculty - the competence includes:

- administration and management of the VMF, including
- co–ordination and control of fulfilment of the decisions of the Council of the Faculty;
- management of the material resources and finances of the VMF;
- issuing corresponding orders;
- representation of the VMF on the LLU level as well as in relations with outside institutions, organisations, establishments and physical persons.

Vice-deans may be appointed by the Dean for specific tasks (e.g. responsible for the teaching-methodology, research etc.). At present there is one Vice-Dean responsible for studies, Director of the Doctoral Study program and responsible for scientific developments; Director of the Master Study Program; Technical Director, responsible for the maintenance of infrastructure of the VMF.

Institutes of the VMF. The main task of all 3 Institutes of the VMF (**Preclinical Institute, Clinical Institute, Institute of Food and Environmental Hygiene)** is to provide the teaching for the students and perform research activities. The institutes have their own meetings of the academic and support staff. The work of the institute is headed by a Director of an Institute.

The Veterinary Hospital has its own Strategy plan for the years 2013-2020 (http://www.vk.llu.lv/par-llu-veterinaro-kliniku/klinikas-strategija/). The Director of the VH is appointed by the order of the Rector of the LLU following the suggestion of the Dean. The main activities of the VH are discussed and accepted by the **Council of the VH**, which consists of the Dean; the representatives of the Institutes of the VMF and the units of the VH itself; the Director of the VH. The members of the Council of the VH are accepted by the Council of the Faculty. The Council is leaded by the Director of the VH.

The Deans office (dekanāts) – the Dean, the Vice-Dean, the Directors of all Institutes and the Director of the VH – has management meetings every week on Wednesdays.

The Study Methodological Commission has a task to review regularly the Curriculum and in case of necessity to ask the Council of the Faculty to perform corresponding changes. The Commission consists of the Dean; Vice-Dean; Director of the study program (usually the same person as the Dean); 1-2 academic staff members nominated from each institute, representing different study courses of the VMF; and of three student representatives (nominated by student self-government). The Head and the members of the MMK are changeable and are accepted each year by the Council of the Faculty. If necessary, for the assessment of a specific study course, professionals of the particular area are invited as external experts. Normally it has meetings once a month.

There is also a **student self–government** operating at the VMF, which is a part of the student self-government organisation of the LLU. The task of the student self–government is to represent and defend the interests of the students in the field of education, to trace social problems and needs of the students, try to solve them having discussions in the front of the academic staff of the VMF and LLU; other institutions, enterprises, organisations both in Latvia and abroad. They appoint representatives to the Council of the Faculty; MMK; Council of Studies of the LLU and the Senate of the LLU.

Indicate the involvement of the veterinary profession and general public in the running of the Establishment.

The VMF has well developed co–operation with the LVB; PVD; other scientific institutes and veterinary laboratories (e.g. Institute of Food Safety, Animal Health and Environment BIOR) and the Ministry of Agriculture; farmer's organisations. They take part in the discussions for the developments, including of the Curriculum; in the Final-State exams commission (see Chapter 5). LLU, SIA Universitātes Vetfonds (http://vetfonds.lv/?lng=en&page=123) and the LVB (http://lvb.lv/) together own the Veterinary Medicine Educational Centre (VIC), which has responsibility to organise post-graduate seminars and trainings for the veterinarians (see Chapter 11).

2.2 COMMENTS

Add any comments on the organisation and functioning of the Establishment that you feel useful for completing the description.

The structure of the VMF is compact and well-functioning. The management process of the VMF is democratic. The VH has its own supervising body – The Council of the VH, which represents the interests and needs of the whole Faculty.

2.3 SUGGESTIONS

If you are not satisfied with the situation, please list your suggestions for change in order of importance and describe any factors which are limiting the further development of your Establishment.

For further development of the international cooperation it would be necessary to have a paid separate staff position of Vice-Dean for science and international relations.

Chapter 3 – FINANCES
3.1 FACTUAL INFORMATION
3.1.1 GENERAL INFORMATION

Indicate whether the Establishment's current financial model (system) meets the Establishment's mission.

The budget of the VMF is a part of the budget of the LLU, which is adopted by the Senate of the LLU each year. A part of the LLU budget is marked for the expenses of the VMF. Expenses of the VMF in LLU budget is shown in the table 3.2 (see also Introduction).

How the allocation of funding (including public funding) to the Establishment is determined, and by what body. If the allocation of funds, or any significant proportion of it, is linked to a particular factor (e.g. student numbers, research output), please describe this. How the basis for funding the Establishment compares with those teaching other courses (e.g. whether veterinary training receives a higher budget weighting compared to other disciplines).

There are several sources of financing of the Faculty.

Public funding. The LLU receives the government funding through the Ministry of Agriculture in accordance with the Regulations of the RCM No. 994 of 2006. Every year the government finances 209 Veterinary Medicine undergraduate study places and 10 Veterinary Medicine Doctoral study places.

According to the regulations mentioned above for the public funding of studies, the basic state financing for one state paid study place per year is 1333.11 EUR for undergraduate studies and 3999.33 EUR for Doctoral studies. For the study program "Veterinary Medicine" a co-efficient 4 is used, so the cost of one study place in the undergraduate study program "Veterinary Medicine" is calculated as 5496 EUR per year and 18037 EUR per year for the Doctoral study place.

Public funding is used for the salaries of staff, maintenance of the buildings, scholarships for students, expenses of the central administration of the LLU.

Unfortunately, due to consequences of the financial crisis, the state funding is reduced and during the years 2013 and 2014 constituted only 85% of the calculated amount and in the year 2015 ~ 86% (see Table 3.1).

Basic science funding is determined according to RCM No. 1316 of 2013. The amount of financing depends of several preconditions: the total amount of the state budget allocated to scientific research in the whole country in the year; the number FTE researchers and their effectiveness – participation in the projects, acquired financing, number of scientific publications, patents etc. The VMF gets basic science financing according to the results of the previous year (Table 3.1.).

Tuition fee is paid by students not covered by the public funding. The level of this fee is decided by the Senate of the LLU. It is 1300 EUR per semester for the undergraduate studies "Veterinary Medicine"; 1600 EUR per semester for the Doctoral studies; 1000 EUR per semester for Master studies; 2750 EUR per semester for undergraduate studies in English (Table 3.1.). The use of those sums see below.

Income from the VH is increasing from year to year (Table 3.1.). 100% of it is used for the needs of the maintenance of the buildings and equipment of the VH, the salaries of the staff etc.

Other income (contracts with service purchasers, e.g. with the city government; renting the premises; donations of organisations and private persons etc.). Every year the VMF gets some income from the city community for the housing of stray animals mainly dogs (Table 3.1.). The money from the rent of facilities is used for 50% for the maintenance of the particular building; the other 50% - for the maintenance of the infrastructure of the LLU as a whole.

Research projects have their own budget according to the tasks, in average 10% is given to the central budget of the LLU. Financing of research projects is based on call for proposals and comes both from National sources – Latvian Council of Sciences, Ministry of Educations and Science, Ministry of Agriculture and EU programs (e.g. Horizon 2020). Usually larger projects are for 2-4 years.

How the allocation of funds within the Establishment is decided.

On the money left in the hands of the VMF the income/expense budget is prepared every year, which has to be adopted by the Council of the Faculty. This money is used mostly to cover the actual needs of the study process – office goods, reagents, materials, fuel, business trips, as well for the

maintenance of equipment etc. At the end of each financial year the Dean of the VMF reports on the results.

What are the mechanisms for funding major equipment and its replacement? The mechanism(s) for funding capital expenditure (e.g. building work, major items of equipment) and how decisions are taken in this matter.

The funding of capital expenditures is mostly funded by state investments and EU co-financed investment projects. The decision on the allocation of money for investment projects is taken by the Cabinet of Ministers on the proposal of the Ministry of Agriculture in co-operation with the LLU and availability of finances.

The mechanism(s) to provide the necessary support for building maintenance and how decisions are taken in this matter.

Building and equipment maintenance is covered by the budget of LLU and the income of the VH. Decisions on the VH expenditure are taken by the Director of the VH after consulting the Council of the VH.

3.1.2 INFORMATION ON EXTRA INCOME

What percentage of income from the following sources does the veterinary teaching Establishment have to give to other bodies (university, etc.)?

A part from the income of the VH, scientific grants and tuition fee has to be left in the hands of the LLU central administration:

- clinical or diagnostic work: - 0%;
- research grants – 10%;
- tuition fee – 80% (part of it is used to pay salaries for the teaching staff etc.).

Please indicate whether students

- pay tuition/registration fees – yes, see above;
- how much these are – see above;
- how they are decided – see above;
- how the funds are distributed. 60% of these sums are used centrally by the LLU for the salaries of the academic and technical staff of the LLU; 20% are used centrally for the needs of ensuring the quality the study process (accreditation of the study programs, purchases for the library of the LLU etc.); 20% can be used under the responsibility of the VMF itself for the purchase of certain needed materials for the study process etc.

3.1.3 OVERVIEW INCOME (REVENUE) AND EXPENDITURE

Table 3.1: Income/Revenue, EUR

Year	State (government)			Income generated by the Establishment					Total, EUR
	Funding of study programs		Basic funding for research	Income from Tuition fee		Research projects	Income from VH	Income from other services	
	Administered by LLU	Direct to VMF	Direct to VMF	Administered by LLU	Direct to VMF	Direct to VMF	Direct to VMF	Direct to VMF	
2013	1 131 871	-	4 758	125 787	31 447	52 165	181 903	67 739	1 595 670
2014	1 121 781	-	8 474	133 102	33 275	90 188	364 390	77 372	1 828 582
2015	1 131 097	-	12 300	156 200	39 050	82 903	550 919	66 905	2 039 374

Table 3.2: Expenditure, EUR

Year	Pay	Non Pay						Total, EUR
	Salaries	Teaching support	Research support	Maintenance of Faculty infrastructure	Business trips, courses, conferences	Scholar-ship for students	Other *	
2014	722 727	249 359	9 586	146 039	7 268	52 319	327 798	1 515 096
2015	859 543	346 421	11 481	155 954	6 593	51 353	311 430	1 742 775
2016	938 911	426 057	26 514	165 878	8 320	54 788	391 509	2 011 977

*other expenditure: purchase of the inventory, repair of the buildings, maintenance of the common infrastructure, administration costs

During the last five years there were large investment projects put in the practise for the modernisation of the VMF and the VH. Totally starting from the year 2011 there have been up taken appropriations of **5 280 735 EUR** (ERDF project No. 2010/0119/3DP/3.1.2.1.1./09/IPIA/VIAA/009 "The Modernisation of the Teaching Infrastructure of the LLU") and **1 665 799 EUR** (ERDF project No. 2011/0040/20040/2DP/2.1.1.3.1/11/IPIA/VIAA/002 "The Establishment of the National Level Research Centre for the Food and Agricultural Research"). The investments during the years 2013 – 2015 see in Table 3.3.

Table 3.3: State and EU investments in the infrastructure of the Faculty, EUR

Year	Ministry of Agriculture	EU co-financed projects	**Total**
2013	74 505	219 656	**294 161**
2014	495 464	594 185	**1 089 649**
2015	152 624	943 334	**1 095 958**

3.2 COMMENTS

Teaching establishments never have enough finance. Please comment on any of the "Guide-lines and Requirements" that are particularly difficult to fulfil in the present financial situation. Please make any comments that you feel would help the Visitors concerning the Establishment´s finances.

The VMF follows all the best practice recommendations in the field of the veterinary education, even there is a difficulty to have competitive salaries for the teaching and supporting staff of the VMF. This leads to the situation that there are some difficulties to employ the best teachers - the diplomates, guest lecturers from the practice. Lecturers without scientific degree can be paid very low – equally to an assistant salary. We could wish more and better technical staff with higher qualification. There is too low governmental basic support to do science, which depends on the number of teaching hours. Bigger funding would give better possibilities to increase the number of farm animal patients in the VH. Nevertheless the VMF is doing all possible to follow the objectives and reach acceptable results.

What is your number one priority for the use of any increased funding?

It is important to increase the level of salaries for the academic and technical personnel of the LLU and the VMF to make them more competitive in the labour market as the existing one is too low in comparison with the salaries in governmental and private sector. This is an obstacle to involve in the teaching process young and capable specialists.

However, since the year 2015 the LLU has developed a system of supplementary payments to the staff for the remarkable results of scientific research activities.

Comment on the degree of autonomy and flexibility available to the Establishment in financial matters.

The financing system in the LLU is over centralised and does not give sufficient level of flexibility to the Dean and heads of the structural units for more effective use of the resources, including a more flexible manner of employment a part time staff. There is a need for more decentralisation of the financial model.

Comment on the percentage of income from services that the Establishment is allowed to retain for its own use, and in particular on the extent to which loss of this income acts as a disincentive for the services concerned.

Even all the income from the clinical activities of the VH stays in the hands of the management of the VH, it is not sufficient. There is inadequate technical staff numbers in the VH, so the additional financial support for the VH would be appreciated.

Please make any other general comments that you feel would help the Visitors concerning the Establishment's finances.

Thanks to investments appropriated by the Latvian Ministry of Agriculture and EU during the last years it was possible to carry out several reconstruction projects, which led to the substantial modernisation of the teaching and research infrastructure of the VMF and its VH, but there is a need that government allocates a sufficient annual financing for the maintenance of the buildings and equipment. The income from clinical activities in the VH will not be sufficient in case the expensive repair or replacements of the equipment will be needed.

According to the data of the Eurostat (2010) the average public founding of higher education and science in Europe is 1.26% of the GDP, while in Latvia it is only 0,8%. World Bank experts have indicated that to the Latvian Government. There is attempt to improve the situation - in the year 2015 the RCM Nr.333(http://likumi.lv//ta/id/274944?&search=on) were issued envisaging annual increase of public founding for study programmes on 0,25% till reaching 2% level. Similarly with the public financing of scientific research - accordingly 0.15% - 1%.

There is money allocated for further modernisation of scientific infrastructure of the VMF and renovation of the administrative building A (see Ch. 6).

3.3 SUGGESTIONS

If you are not satisfied with the situation, please list any shortcomings and provide suggestions- in order of importance and describe any factors which are limiting the further development of your Establishment.

Governmental funding allocated to the study programs performed in the VMF should be at least partly transferred directly to the VMF; a part (~ 10-15%) has to be transferred to the LLU for covering centralised expenses. This would help to use more effectively otherwise the poor founding. It would be advisable to leave a bigger part from the income of the tuition fee in the hands of the VMF management.

Chapter 4 - CURRICULUM

4.1 FACTUAL INFORMATION

Indicate whether there is a defined national curriculum and (if applicable) how and by what body decisions are taken on this.

In Latvia study programs are developed according to the so called profession standards (RCM No. 461 of 2010 "Regulations Regarding the Classification of Occupations, Basic Tasks Corresponding to the Occupation, Basic Qualification Requirements and Procedures for the Use and Updating of the Classification of Occupations" (http://likumi.lv/ta/id/210806-noteikumi-par-profesiju-klasifikatoru-profesijai-atbilstosiem-pamatuzdevumiem-un-kvalifikacijas-pamatprasibam-un-profesiju-klasifikatora); RCM No. 512 of 2014 "Regulations on the Second Level Higher Professional Education National Standard" (http://likumi.lv/doc.php?id=268761). New study programs first have to be licensed (RCM No. 408 of 2015) for 2 years after what they have to be accredited nationally - and reaccredited every 6 years. For the accreditation study programs are grouped in a study direction (RCM No. 407 of 2015 – accreditation of study direction). Such approach was established by the Ministry of Science and Education after overall assessment of Latvian education model.

The study program "Veterinary Medicine" is accepted by the decision of the Senate of LLU and licenced by Academic Information Centre (www.aic.lv); has become a part of the study direction "Agriculture, Forestry, Fishery, Veterinary Medicine and Food hygiene". So, this study direction was accredited in 2013 for 6 years (until 16th May 2019).

The development and modernisation of the Curriculum for obtaining a degree of a veterinarian is based on the requirements of Professional Qualifications Directive 2005/36/EK of European

Parliament and Council and its amendment Directive 2013/55/EU, as well as the requirements and suggestions of the EAEVE, the Federation of Veterinarians of Europe and OIE and also following national legislation.

According to the above mentioned rules, each Establishment of Higher Education (e.g. LLU) has to determine the procedures for the preparation, development, amendment, changing of study programs and study courses in order to ensure the achievement of the prescribed study results. The description of each study course in the University shall be prepared and approved in accordance with the procedures specified by the University (Order of the Study vice-rector of the LLU No. 2.4.-5/57 of 10th July 2015). According to this, all study course programs are registered in the LLU study course register.

Since the 2010/2011 study year the study program "Veterinary Medicine" takes six years (12 semesters), has 366 ECTS credits or 244 Latvian credit points. According to national regulations the study program "Veterinary Medicine" is a second level professional higher education study program, is equal to the Masters level with access to Doctoral studies. The qualification awarded upon completion of the study program is "Veterinarian".

The Study program is examined and improved every study year. From the study year 2014/2015 there were introduced some minor modifications such as moving particular courses from one semester to another, merging some minor study courses in one study course to reach 2CP level of study course.

From the study year 2016/2017 (starting from September 2016) the curriculum has been changed in a way, that teaching of anaesthesiology is passed out as a separate study course "Anaesthesiology and Emergency Care" for which an external Academic staff member is invited; the study course "Special Pathology and Forensic Veterinary Medicine" is broadened with inclusion in it the pathological physiology. The tables below are based on the curriculum started in the study year 2010/2011 and the modifications of it are mentioned by a * and underline explanations. The main changes are related to study course placing and planning.

According to the Regulations of Studies of the LLU the full-time studies have 20 CP during each semester. Latvian credit points and the corresponding number of hours is defined (1CP = 40 academic hours = one-week full-time study workload; 1 academic hour = 45 minutes). The Latvian credit point system is compatible with ECTS. The number of ECTS credits is calculated by multiplying the number of Latvian credit points by a factor 1.5. One credit point corresponds to 16-20 contact hours of supervised work and accordingly 20-24 hours on the part of the student.

Describe the degree of freedom that the Establishment has to change the curriculum.

According to the rules mentioned above there is a considerable autonomy for the Faculty and the University to develop the curriculum according to its own experience within the framework. Studies at the University are organised according to the academic calendar. The study year consists of two semesters, the spring semester and the autumn semester. The length of each semester is 16-weeks after what the examination session follows for four weeks. After the autumn semester and examination session there is a holiday break for two weeks around Christmas and New Year. After the spring Semester and examination session there is summer holiday of eight weeks. During holidays there are no formal educational activities.

Director of the study program „Veterinary Medicine" (Dean of the VMF), MMK, the leading teachers of the study courses and Institutes, the Council of the Faculty are the bodies involved in decision making about changes in the curriculum.

According to the regulations of the LLU, study course programs have to be updated according to the new information or latest developments at least once in two years during self-assessment activities. Since 2014 LLU Study Council has decided that any study course may not be less than 2CP. This rule does not allow developing study course with small amount of CP and has initiated the tendency to merge several small study courses in one.

Every year the VMF prepares a report on the developments of the study program to reach the goals set in the strategy documents of the LLU and VMF; the reports are published in the LLU website (http://www.llu.lv/sites/default/files/2016-05/SV_Lauksaimnieciba_parskats_2014_2015.pdf)

Substantial changes in the Curriculum such as change of credits or change of content of the study program has to be included in the annual faculty's report and accepted by the Study Council of the LLU.

Outline how decisions on curriculum matters and course content are taken within the

Establishment.

Changes of the study program are leaded by the Director of the study program; it is discussed at the MMK and after at the Council of the Faculty. Elaboration and modification of the particular **study courses** is the responsibility of the leading teachers of the study courses; if the proposed changes are substantial they are thoroughly discussed at the meeting of the academic staff of the corresponding Institute, after at the MMK. After reaching a common ground the proposal is submitted to the Council of the Faculty for adoption. Unsubstantial changes of a study course (such as planning, list of recommended literature etc.) are done by leading teacher and announced accordingly.

Outline how decisions are taken on the allocation of hours between the various subjects and on the balance between theoretical and practical teaching (Tables 4.1, 4.2 and 4.3).

Changes to the curriculum, e.g. allocation of hours between the various subjects, the balance between theoretical and practical teaching can be initiated by the responsible teacher or any member of the teaching process and first discussed in the meeting of the academic personal of the Institute. After the proposal is submitted to the MMK for discussion and after reaching the common ground it is send for final discussion and acceptance to the Council of the Faculty.

Indicate the presence and disposition of an integrated curriculum. Describe the degree of integration present and the amount of time devoted for EU-and non-EU-listed subjects (Table 4.4)

The curriculum is under regular changes and improvements. It is adapted to the changing needs of the profession and society. The academic staff has stated clear outcomes of the subjects and as they are inter-related, there is a an on-going process to harmonize the subjects in a way to ensure an integrated curriculum of basic and clinical teachings, relevance of allocated curriculum hours and teaching methods to achieve the stated outcomes, giving the basis for problem solving approach for the use of acquired knowledge and skills. The time for non EU-listed subjects is decreased.

4.1.1 POWER OF SUBJECTS AND TYPES OF TRAINING
4.1.1.1 POWER OF SUBJECT

The basic subject block includes 10 subjects that make 426 h (26.5 CP or 39.75 ECTS). The Specific subject block of basic sciences includes 11 subjects that make 970 h (48.5 CP or 72.75 ECTS). Block of clinical sciences includes 17 subjects that make 1710 h (85.5 CP or 128.25 ECTS), block of animal production – 5 subjects that make 318h (18.5 CP or 27.75 ECTS), food hygiene block – 4 subjects that make 230 h (11.5 CP or 17.25 ECTS) with 4 week practice in Food hygiene and inspection that make 4 CP or 6 ECTS. Curriculum includes six Practices (39 CP or 58.5 ECTS) and three State examinations (6 CP or 9 ECTS). The total number of hours per 6 years is 8898h (excluding elective subjects and extramural practice). Extramural practice and elective subjects make accordingly 520 h (13 CP or 19.5 ECTS) and 170 h (8.5 CP or 12.75 ECTS) respectively. Titles of subjects listed in Table 4.2., 4.3., 4.4.

"Core" subjects taken by every student

The study programme “Veterinary Medicine” all core subjects listed in the EU legislation (Table 4.2).

"Electives" which each student must select from a list of permissible subjects

In the framework of the credit system (credit-based curriculum), students have the right to freely organise their individual study plans and to select electives which they are interested in. Every student has to acquire at least 8.5 CP of the elective course. If a student has selected any of these subjects in the related year, the attendance is compulsory. Elective subjects are offered taking into account the total study programme (curriculum), succession of obligatory and optional (elective) subjects is observed. Thus, after completion of Physiology students acquire the elective course Physiology of sensory systems. The elective course Veterinary dentistry is planned after Operative surgery which is an obligatory course when students have acquired basic methods of surgery technique. List of offered elective subject is presented in Table 4.3.

Obligatory extramural work

There are several obligatory extramural praxes (see 4.1.4. and table 4.5). The aim is to provide students with relevant up-to-date knowledge regarding the current situation and the level of everyday practice of different fields of veterinary activities. These praxes are organised on the basis of contractual co-operations with external veterinary practitioners/institutions having teaching colleagues who are able to provide practical knowledge to the students.

4.1.1.2 TYPES OF TRAINING

There cannot be absolute distinction between the terms used to distinguish between different types of training. Overlap is inevitable. The following descriptions are derived from the definitions presented in the section 'Main Indicators' of Annex I.

The curriculum includes lectures, seminars, supervised practical trainings (desk-based analytical and laboratory practical exercises, non-clinical and clinical practical exercises, visits to farms and enterprises supervised by teaching staff). There are intramural and extramural praxis, incl. so called Rotation Praxis.

In the **lectures and seminars** all the students of the year are taking part. **Practical trainings** (such as laboratory or desks work, sometimes also seminars) are organised for an **academic group** or a part of it – a smaller **so called laboratory group**. One academic group consists of up to 25 students. The number of small groups is determined by the total number of the students and the number of places in a laboratory, usually one laboratory group consists of about 10 students. For clinical work students are divided in even smaller non formal groups which get individual tasks.

4.1.1.2.1 THEORETICAL TRAININGS

Lectures convey theoretical knowledge. Lectures 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 Establishment (e.g. e-learning)

Almost all study courses have certain part of it covered by lectures. During lectures different teaching aids are used as well. Seminars – students are holding a discussion on a certain theme with a summary at the end. This is a way to train students for self-directed work, analytical and critical thinking, discussions, conclusions, presentation skills etc.

About 50% of the whole study time is student self-directed learning which is partly structured by specific tasks in certain study courses. It could be just acquiring knowledge from text books or other materials; preparations for seminars, tests, case analysis; duties at the VH; visiting farms with a special task, e-studies (e.g. collection of specimen for diagnostic work) etc.

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. It also includes work on documents and idea-formulation without the handling of animals, organs, objects or products (e.g. essay work, clinical case studies, handling of herd-health monitoring programmes, risk-assessment computer-aided exercises).
Non-clinical animal work. These are teaching sessions where students themselves work on normal 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 propaedeutic hands-on work on organ systems on cadavers to practice clinical techniques are also classified as clinical work.

According to Regulations of Studies of the LLU, supervised practical trainings (Laboratory and desk based work + Non-clinical animal work + Clinical work) are named as Laboratory works, Practical works and Practices. Nearly all of the subjects have a mandatory laboratory/desk work component in which students should participate actively. Hands-on work using the appropriate equipment and specimens are integrated part of the training.

Laboratory work – includes practical or research work carried out with laboratory and/ or technological equipment, materials and objects (including biological) in a specifically equipped premise (a laboratory), or using particular equipment, practical experiments, deepen and consolidate theoretical knowledge, develop experimenting skills. Laboratory works can be done individually, in pairs or in small groups. The laboratory work includes: preparing of devices, equipment and reagents necessary for the experiment, planning the experiment, carrying out the experiment, measuring parameters, data processing, interpretation of data, drawing conclusions and writing down the report on the laboratory work and its defence.

Desk based work relates to the instructions before practical animal and clinical trainings; work with documents, certificates, legislation, reports etc.

Practical work - is a contact hour for an academic group to use theoretical knowledge in practice and to deepen it. Practices (practical trainings) are a basic part of the study program during which a student masters professional skills in an environment that matches the aims of his/her practice.

Students get knowledge and understanding of aetiology of most common diseases, pathogenesis, clinical signs, diagnostics and treatment of most common animal species in EU and legislation, skills to get information about sick animals or animal groups, to behave carefully with animals, to do entire clinical examination of an animal, to provide first aid for various animal species, to evaluate the animal feeding situation correctly, to collect, transport various samples and interpret the results, to use the possibilities of visual diagnostics, skills for treatment prescription and competence of communication with the owners and colleagues, to make notes and to prepare veterinary documentation, to feel responsible to animals in care, to organize and manage veterinary work, to increase knowledge, to adapt to alterations, to realize the possibility of professional skills, to show when and where it is possible to receive consultation, support and help.

4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS

4.1.2.1 CURRICULUM HOURS

This section makes a distinction between curriculum hours to be taken by every student and those offered as electives or within a given track. Specific information is also requested on subjects other than those specified in table 4.2.

The curriculum hours taken by students during six years includes totally 8898 hours (see Table 4.1.). From the table are excluded elective courses and extramural practices, what makes additionally 170 h as electives and 520 h as extramural work.

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

Year	Hours of training							
	Theoretical trainings			Supervised practical training			Other	Total
	Lectures (A)	Seminars (B)	Self-directed learning (C)	Laboratory and desk based work (D)	Non-clinical animal work (E)	Clinical work (F)	(G)	
First	264	0	906	322	138	0	48	1678
Second	270	0	742	260	138	0	0	1410
Third	319	0	691	218	31	193	0	1400
Fourth	262	0	624	139	102	273	0	1400
Fifth	270	32	588	189	81	60	0	1220
Sixth	130	24	568	48	140	800	80	1790
Total	1515	56	4119	1176	630	1326	128	8898

*Elective course hours and extramural work hours taken by all students are listed in table 4.3. and 4.5.

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

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures A	Seminars B	Self-directed learning C	Laboratory and desk based work D	Non-clinical animal work E	Clinical training F	 G	
1.Basic Subjects								
a)Physics	32	-	72	16	-	-	-	120
b)Chemistry								
Inorganic chemistry	16	-	48	16	-	-	-	80
Organic Chemistry	16	-	48	16	-	-	-	80
c)Animal biology *Animal biology, ecology*	48	-	120	32	-	-	-	200
d)Plant biology *Botany and pharmacognosy*	16	-	72	32	-	-	-	120
e)Biomathematics *Basics of Biometry*	16	-	48	16	-	-	-	80
1-Total number of hours	*144*	-	*408*	*128*	-	-	-	*680*
2.Basic Sciences								
a)Anatomy (incl. Histology and embryology)								
Anatomy of domestic animals	48	-	192	-	160	-	-	400
Cytology, histology, embryology	32	-	84	60	4	-	-	180
Topographical anatomy	-	-	24	-	16	-	-	40
b)Physiology	60	-	140	50	30	-	-	280
c)Biochemistry, cellular and molecular biology *Biochemistry*	16	-	96	48	-	-	-	160
d) Genetics (including molecular genetics)	16	-	72	32	-	-	-	120
e)Pharmacology and pharmacy	48	-	80	32	-	-	-	160
f)Toxicology	16	-	16	8	-	-	-	40
g)Microbiology (including virology, bacteriology and mycology)	90	-	180	60	30	-	-	360
h)Immunology	14	-	38	28	-	-	-	80
i)Epidemiology (including scientific and technical information and documentation methods)	16	-	40	24	-	-	-	80
j)Professional ethics *Organisation of veterinary service*	10	8	22	-	-	-	-	40
2-Total number of hours	*366*	*8*	*984*	*342*	*240*	-	-	*1940*

3.Clinical Sciences								
a)Obstetrics *Farm animal reproduction*	24	-	60	18	12	6	-	120
b)Pathology (including pathological anatomy) *General pathology* *Special pathology* *Animal post – mortem necropsies*	 32 64 -	 - - -	 56 120 60	 32 46 10	 - 10 50	 - - -	 - - -	 120 240 120
c)Parasitology *Parasitology and parasitic diseases*	64	-	120	19	15	22	-	240
d)Clinical medicine and surgery (including anaesthetics) *Operative surgery* *Small animal surgery* *Large animal surgery* *Clinical practice I* *Clinical rotation II*	 24 30 26 - -	 - - - - -	 92 70 60 - -	 - 6 24 - -	 - - - - -	 64 54 10 40 800	 - - - - -	 180 160 120 40 800
e)Clinical lectures on various domestic animal, poultry and other animal species including *Internal medicine, herd health* *Small animal internal medicine* *Diseases of miscellaneous animals*	 92 36 44	 - - -	 194 90 108	 62 13 52	 11 - 16	 41 61 -	 - - -	 400 200 220
f)Field veterinary medicine (ambulatory clinics) *Large animal practice I* *Clinical practice II*	 - -	 - -	 - -	 - -	 - -	 40 40	 - -	 40 40
g)Preventive medicine *Infectious diseases*	72	-	136	72	-	-	-	280
h)Diagnostic imaging (including radiology) *Radiology*	24	-	80	24	-	32	-	160
i)Reproduction and reproductive disorders *Farm animal reproduction*	64	-	108	22	27	19	-	240
j)Veterinary state medicine and public health *Organisation of veterinary service*	18	10	28	14	-	-	-	70

k)Veterinary legislation and forensic medicine								
Organisation of veterinary service	30	16	64	-	-	-	-	110
Forensic veterinary medicine	10	6	20	-	4	-	-	40
l)Therapeutics								
Clinical pharmacotherapy	8	-	16	16	-	-	-	40
m)Propaedeutics (including laboratory diagnostic methods)								
Clinical and laboratory diagnostics	55	-	115	14	-	56	-	240
3-Total number of hours	*717*	*32*	*1597*	*444*	*145*	*1285*	-	*4220*
4.Animal Production								
a)Animal production								
Animal husbandry	18	-	59	17	6	-	-	100
Practical agricultural management (practice)	-	-	-	-	40	-	-	40
b)Animal nutrition	37	-	87	36	-	-	-	160
c)Agronomy								
Forage production	8	-	24	8	-	-	-	40
d)Rural economics								
Theory of economics	16	-	48	16	-	-	-	80
e)Animal husbandry	19	-	58	17	6	-	-	100
f)Veterinary hygiene								
Animal and environmental hygiene	40	-	104	46	10	-	-	200
g)Animal ethology and protection								
Ethology	8	-	30	22	-	-	-	60
4-Total number of hours	*146*	-	*410*	*162*	*62*	-	-	*780*
5.Food Hygiene/ Public Health								
a)Inspection and control of animal foodstuffs or foodstuffs of animal origin and the respective feedstuff production unit								
Food hygiene and inspection	40	-	100	-	60	-	-	200
b)Food hygiene and technology								
Basics of food technology	16	-	60	-	24	-	-	100
c)Food science including legislation								
Food marketing	24	-	40	16	-	-	-	80
Food borne diseases	16	-	40	-	24	-	-	80
Food toxicology	24	-	40	16	-	-	-	80

d)Practical work (including practical work in places where slaughtering and processing of feedstuffs takes places) *Practice Food hygiene and inspection*	-	-	-	-	80	-	80	160
5-Toatl number of hours	*120*	-	*280*	*32*	*188*	-	*80*	*700*
6.Professional Knowledge								
a)Practice management *Organisation of veterinary service*	8	4	4	-	-	-	-	16
b)Veterinary certification and report writing *Organisation of veterinary service*	2	-	8	2	-	-	-	12
c)Career planning and opportunities *Organisation of veterinary service*	2	2	8	-	-	-	-	12
6-Total number of hours	12	6	20	2	-	-	-	40

**specific titles of study courses of the Curriculum in italic if different form EU-listed subject titles.

Minimum amount of electives is 8.5 CP. Offered elective courses is listed in Table 4.3.

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

Subject	Theoretical training		Supervised practical training			Other	Hours to be taken by each student per subject group
	Seminars	Self-directed learning	Laboratory and desk based work	Non-clinical animal work	Clinical training		
	A	B	C	D	E	F	
Basic subjects							
Vertebrate fauna of Latvia	16		16				32
Spanish	32		32				64
French for beginners	32		32				64
German for beginners	32		32				64
Business Russian	32		32				64
Basic sciences							
Physiology of sensory systems	16			16	8		40
Clinical sciences							
Veterinary dentistry	8				8		16
Ophthalmology	20	4			6		30
Game animal diseases	8		8				16
Small animal reproduction	20		10				30
Animal production							
Basic training of horse and rider	32			16			48
Biologic livestock husbandry	12		20				32

Livestock farm modernisation	28		12				40
Professional knowledge							
Functional communication	32		32				64

Tab. 4.4 requests information concerning curriculum hours in subjects not listed in Table 4.2 to be taken by every student. If offered as electives or within a special track, please develop separate tables (e.g. 4.4a, b…).

Curriculum hours in subjects not listed in Table 4.2 to be taken by each student, including Final exams are presented in Table 4.4.

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

Subject	Theoretical training			Supervised practical training			Other	Total
	Lectures A	Seminars B	Self-directed learning C	Laboratory and desk based work D	Non-clinical animal work E	Clinical training F	G	
Professional foreign language	-	-	48	32	-	-	-	80
Latin language	-	-	48	32	-	-	-	80
Sport	-	-	-	-	-	-	48	48
Introduction to studies	16	-	20	4	-	-	-	40
Applied psychology	16	-	36	8	-	-	-	60
Final work (planned during Clinical rotation II)	-	-	80	-	-	-	-	80
State exam *Infectious diseases, hygiene*	-	-	80	-	-	-	-	80
State exam *Internal medicine, pathology*	-	-	80	-	-	-	-	80
State exam *Surgery, reproduction*	-	-	80	-	-	-	-	80
Total number of hours	*32*	-	*472*	*76*	-	-	*48*	*628*

4.1.3 FURTHER INFORMATION ON THE CURRICULUM

Provide the Visitation Team with highlights and any unusual or innovative aspects of the teaching programme, e.g. tracking and orientation programmes.

There is no official tracking or specific orientation programs in the VMF.

State the parts of the programme that must be attended as obligatory by the students and how the attendance is verified.

All courses mentioned in Tables 4.2 and 4.4 are obligatory and elected courses have to be chosen form offered subjects, listed in 4.3, of amount at least 8.5 CP. Each study course has an evaluation at the end – a test or an exam. All students have to pass all evaluations described in the program of a certain study course (see details in Chapter 5). Depending form course, lectures would be obligatory or not, but attendance of practical trainings are obligatory in all study courses. Missed practical works due to acceptable reasons must be made up according to teachers determined rules in course programme.

Please provide specific information on the practical clinical training; if clinical training is to be provided through obligatory clinical rotations in different areas, please give an outline description of how this is structured, in terms of

Practical clinical training is covered both by intramural and extramural studies. Intramural clinical training given to all students includes: clinical lessons/desk work, study course lessons in the VH, farm visits, student duties in the VH (5^{th}, 6^{th} semester), the Mobile Clinic (11^{th}, 12^{th} semester), as well as intramural praxes, such as Large animal praxis I in 8^{th} semester, Clinical praxis in 8^{th}, 9^{th} semester, RP II in 11^{th} semester. From the study year 2016/2017 RP II will be organised in the 12^{th} semester.

To the extramural clinical trainings belong Large animal praxis II in 8^{th} semester and 6 weeks long extramural praxis in 10^{th} semester, where students may choose the the places (small animals, farm animals, exotic animals).

The trainings are based on the principles of the Day One Skills.

Are such rotations a structured part of the training given to all undergraduate students?

Yes.

The total number of days or weeks of such rotations. The year(s) in which they occur The different areas covered and the time spent in each area. Whether attendance is full-time, for part of the day, and/or other (e.g. based on case needs).

Clinical Rotation Praxis (RP) II is organised as intramural praxis in the 11^{th} semester (from the study year 2016/2017 it will start already at the end of 11^{th} and continue in 12^{th} semester) for 18 weeks including last 2 weeks for writing a Final work (see Chapter 5 and 13 as well). Praxis is divided in six blocs each for 3 weeks: the small animal surgery; small animal internal medicine; large animal medicine; equine medicine; mobile clinic visits. Starting from the study year 2016/2017 there will be also a block of post-mortem necropsies. The training is organised in shifts - there are 4-6(7) students in each block during the shift, depending on the number of students in the study year. The aim of this praxis is to strengthen the theoretical knowledge and practical skills in different fields of clinical veterinary medicine and to strengthen routines important for practising veterinary medicine.

After each block students have to take an individual test according to the particular block program – a clinical case reports, theoretical tests, oral presentations. Presentations are performed during a so called Clinical hour, which is a forum organised normally twice per month in the VH with the participation of the staff of the Clinical Institute and the VH. During the whole praxis each student has to choose clinical cases and has to work out a paper of a case analysis as a Final Work of the RP. For this purpose each student has a teacher-supervisor of the work and two auditors. At the end of the praxis all works have to be presented, discussed among students and teachers and defended in front of the special commission, consisting of the teachers of the corresponding sciences, established by the order of the Dean. This is evaluated as test with a mark.

Three blocks - small animal surgery; small animal internal diseases and horse medicine are taking place in the VH. As in previous praxis hold in clinics, during this praxis students take part in a morning meetings during which there is given and discussed information about the hospitalized animals; is performed planning of the following diagnostic and treatment activities. Students do the collection of anamnesis, perform general and special investigations of animals; register the obtained data; propose possible diagnosis or needed additional investigations and in consultation with the responsible veterinarian for the case prepare a treatment plan, do corresponding manipulations.

During the **horse medicine block** students have to come for emergency situations also out of normal working hours.

The Large animal medicine block is organised in the farm „Vecauce". Besides the clinical work with individual animals, students have to do herd medicine. They have to evaluate the herd health situation, propose activities for the further diagnostics; disease preventive measures and treatments in case of a need.

The Mobile clinic works according to the schedule for farm visits.

The Block of post-mortem necropsies starts from the study year 2016/2017, what will be organised in the Laboratory of Comparative Pathology.

The activities and case responsibilities that students are expected to undertake

All **intra-and extramural praxes** are based on praxes programs, designed by the teachers involved and adopted by the Council of the Faculty, which include objectives and requirements of the

practice. Students' attendance and adequate performance during extramural clinical praxes are supervised by the staff of the VMF. Students have to document activities and submit a written report on their practical work.

During the CR, students participate in all the work of the VH under the supervision of the teaching staff. They learn to handle animals, communicate with clients, do the collection of anamnesis, perform general and special investigations of animals; register the obtained data; propose possible diagnosis or needed additional investigations and in consultation with the responsible veterinarian for the case prepare treatment plan, do corresponding manipulations, describe the results and make analysis using the relevant literature data, prepare conclusions and recommendations. They are involved in making clinical decisions as well as in following the care and treatment of the animals. Normally, in the VH every morning there is a short meeting, where the RP students take part; there is given and discussed information about the hospitalized animals; is performed planning of the subsequent diagnostic and treatment activities.

The group sizes in the clinical rotations

See above and below related to each kind of praxis.

Describe clinical exercises in which students are involved prior to the commencement of clinical rotations.

The curriculum is constructed on the system of pre-requisite subjects – basic subjects, basic sciences, animal production etc. Students cannot enrol for clinical subjects if they have not passed the assigned pre-requisite subjects. Before the Clinical Rotations students have to pass all subjects listed in the Curriculum prior to praxis.

Clinical lessons/laboratory works. These study courses mostly take place in the VH with students divided in small groups of 8-14 people. For that purpose are used both animals brought to the VH for treatment as well special animals kept in the VMF for training purposes. After those trainings in the VH, several times per semester in the frame of different courses, students visit farms and have supervised practical work in dairy cow farms, also in sheep, goat, pig farms (see list of the farms Chapter 6). At the moment there are some restrictions in Latvia to visit pig farms because of African swine fever. Farms are visited by 25-35 students with 2-4 teachers supervising the work. Students do individual investigations or have a task for a group of 3-4 students.

During **practical intramural trainings** the main emphasize is put on the investigation, examination of an animal, diagnostics, which have to be managed by each student. Students have clinical instructions, have a possibility to observe and try to perform different practical manipulations – starting with general and specific clinical examinations of animals, sampling, analyse and explain the symptoms; collect blood and urine samples from the animals etc. After, students develop (hands on) most common manual and visible diagnostic methods, the use of mobile equipment (e.g. ultrasonography) etc. Treatment manipulations for cows, goats, sheep, pigs, horses are shown, but the skills students have to develop further during praxis. Assistance for delivering of calves is trained on the phantom in the laboratory of the VMF.

During the course „**Farm Animal Reproduction**" besides already described activities students learn the basics of the artificial insemination and reproduction of animals with animals and in the Laboratory of Artificial Insemination of the VMF. Students in groups of 8-14 people observe and perform collection of semen and its investigation; learn to detect the heat of female animals, to exam pregnancy etc.

During the **"Parasitic diseases"** course besides the laboratory works, a group of students (3-4 students) have to choose animal species and farm/holding and perform its investigation (inspect the holding and pasture or surrounding of the animal/s, exam the animal itself, collect samples for the test for ecto- and endo-parasites), describe the results, propose the improvement plan and have a presentation.

During **the "Operative Surgery" (Operative Surgery and Topographical Anatomy** starting from the year 2016) students mainly work in the VH. They get acquainted with scrubbing and clothing for surgical operations, surgical instruments, preparation of the operational field, methods of osteosynthesis and anaesthesia etc. They work on casts to learn to put in stiches, bandages and dressings etc., later work with live animals and train certain manipulations, e.g. fixation of animals, injections, castration/sterilisation of dogs/cats etc.

For the **"Internal Medicine and Heard Health"** a group of 2-3 students have to collect data in 2 farms on the established problem, analyse obtained information, propose solutions and later present the cases and discuss with the rest of the students of the year during a seminar. The main topics for problem solving are „Reproductive problems in the dairy herd", „Nutritional and metabolic problems", „Lameness problems", „Animal welfare problems" etc. There is specific attention paid to sheep and goat herd health problems. During desk works there are discussions organised on the heard health planning.

In most courses students have to choose a case, which have to be analysed and presented. During desk works (seminars) the theoretical clinical cases are analysed as well.

For the purpose to deepen practical skills and to have more animals available for training, several **intramural praxes** are organised. First, already in **3rd year during 5th and 6th semester** every day 2 students have individual work in the VH for a whole day (from 7am to 5pm) under supervision of a teacher. The main aim of the praxis is to train diagnostic skills, but students have possibilities to observe all activities of the VH and they have specific duties as well, e.g. clinical examination of hospitalized animals and filling in the corresponding documentation. They help with the performance of the manipulations, and perform laboratory tests in the Clinical laboratory of the VH. Such hospital days each student has 2-3 times per semester, depending on the number of students in the year.

In the **4th year during 8th semester** there are two types of large **animal intramural trainings** in the farm "Vecauce". One is a clinical training for **all the students** of a year for one **week** (5 days) covering all clinical subjects mentioned above. Students are divided in 4 groups with 7-10 students in each, and under supervision of different teachers according to time table do different exercises in relation to large animal medicine. In the **same semester** each student returns to this farm in a **smaller group** (a group of 2-4 students) **once or twice per semester** again for a **week** to a Clinical practise farm animal veterinary routine. Students have individual tasks under different courses. They have to make investigations, perform manipulations and train the skills. They have to choose one clinical case and have to perform investigation of an animal, work with relevant literature data, make analysis and describe the results; prepare conclusions and recommendations on the needed further activities or treatments. At the end of this training students have to present the case during so called Clinical Hour at the Clinical Institute of the VMF. Such hour is organised twice per month.

Outline the student involvement in the emergency and hospitalisation activities of the clinics

In the 5th year during 9th semester Clinical practice each student does his/her shift of 24 hour duties according to a drawn-up schedule (1-2 times per semester in a group of 2 students at a time) in the Small Animal Clinic of the VH as an intramural praxis. The main task is to learn the routine of the veterinary practise and managing emergency situations in the small animal clinic, to train the skills under supervision of a teacher. During the night duties, students gain experience in the veterinary treatment of patients in need of emergency assistance. Students are taking part in the everyday short morning meeting about the actualities of the day (information from the last night and plans for the day).

Specify student participation in the activities of the mobile clinic and indicate whether or not the hours spent in the mobile (ambulatory) clinic are included in those in Table 4.2.

The six year students during the Rotation praxis II in the 11th semester participate in the Mobile clinic work in small groups (6-8 persons) for three weeks. Students and teaching staff are taken to the farms with a specially equipped minibus/mobile clinic. The most visited is the large animal farm "Rubeņi" near to the VMF were students participate in the everyday work of the veterinarians: every morning clinical evaluation of the herd health status; examination and treatment of individual animals with health problems (managing surgical disorders like displaced abomasum, Caesarean section, umbilical hernia, postpartum problems); preventive measures (individual gynaecological examinations; claw trimmings; evaluation of the status of calve gastrointestinal/respiratory system, immunity status; analysis of calve feeding, calve dehorning; some basic surgical procedures; evaluation of the milking hygiene; looking for possible solutions).

There are several other farms were students are taken if there is any special clinical case or animals need complementary examination (X-ray, ultrasound); to demonstrate and compare nutrition or milking process examination techniques. Mobil clinic is serving an emergency calls on farms close to the VH. There are plans to increase heard health visits (milking hygiene, evaluation of the nutrition

status, prevention of young animal health problem etc.) to different farms and develop the activities of the Mobil clinic.

4.1.4 OBLIGATORY EXTRAMURAL WORK

These are training periods that are an integral part of the curriculum, but which are taken outside the Establishment. Please make a distinction in respect to the nature of the work, for instance work on farms, training in a veterinary practice or in Food Hygiene/Public Health with a commercial or government organisation. Please indicate the guidelines pertaining to this activity, and the manner by which it is assessed.

During studies there are 4 extramural practices, which are an integral part of the curriculum and are obligatory to all students (listed in Table 4.5). Extramural praxis are designed to let students be acquainted with animal keeping systems, animal welfare, animal husbandry and breeding, to further improve practical clinical skills and to introduce them with the organisation of the different ordinary veterinary praxis, to get knowledge of functioning of official veterinary and food control. Extramural praxis can be taken in other country in the frame of the ERASMUS program. Students are appointed to the practice by the Rector's order and 3 side agreement.

During the 2nd year there is **"Physiology, ethology and welfare"** extramural praxis taking place in agricultural farms, animal shelters, the Riga Zoo or with veterinary practitioners acquiring animal breeding, rearing, feeding, welfare etc.

The three week extramural praxis **"Large animal practice II"** with veterinary practitioners is carried out during the 8th semester 4th year. The main task of this praxis is to obtain practical skills in large animal medicine according to the program of the praxis – investigation of animals, diagnostics, treating of ill animals as well as with preventive work and communication with clients. Students can choose the praxis place from the list of the recommended veterinary praxis places or propose new places, which will be evaluated before acceptance. Praxis is performed on the basis of mutual agreement between LLU, private practitioner and a student.

Six weeks long extramural praxis with veterinary practitioners **(Clinical rotation I)** is conducted in the 10th semester 5th year. Students are allowed to choose a place according to his/her interests in fields of veterinary clinical work, such as small animal, large animal, bird, exotic, wild or other veterinary practice. Students have to register all professional activities in a dairy and make a report on the cases dealt with during the praxis.

Food hygiene and inspection - extramural praxis - 4 weeks in the PVD during the 12th semester, which includes 2 weeks of meat inspection in a slaughterhouse and 2 weeks of participation in the official controls performed by an official inspector of the local administration of the PVD. The supervisors of the praxis are specially selected persons by the PVD and the VMF, who have understanding about the pedagogical methods applied in education of students. To ensure the individual approach for practical training one PVD inspector supervises one or two students. The teacher of the VMF is following the performance of the practical training, by giving the methodological instructions and assistance. The main activities during this praxis are: planning of the official activities, working with documents, methods of official controls in the food and feed safety and quality, inspections of food and feed establishments, the decision making. Students shall perform practical assessment of different kind of food enterprises by observation, sampling and laboratory testing and make a decision on the food enterprise hygienic status. In the slaughterhouse students should perform practical food-chain information assessment, ante-mortem, post-mortem inspections, sampling, laboratory testing, interpretation of testing results, learn the principles of animal welfare assessment before slaughtering decision making on live animals health status; fitness of a meat for consumption. The supervising teacher of the practical training from the VMF makes the final evaluation and grade for each student.

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

Nature of work/ Practice	Minimum period		Maximum period		Year in which work is carried out
	hours	% of total study time	hours	% of total study time	
Physiology, ethology and welfare	80	0.8196	80	0.8196	2nd
Large animal practice II	120	1.229	120	1.229	4th
Clinical Rotation I (6 weeks extramural praxis)	160	1.6393	160	1.6393	5th
Food hygiene and inspection	160	1.6393	160	1.6393	6th

4.1.5 SPECIFIC INFORMATION ON THE PRACTICAL TRAINING IN FOOD HYGIENE/PUBLIC HEALTH

Describe arrangements for teaching in a slaughterhouse and/or in premises for the production, processing, distribution/sale or consumption of food of animal origin.

Since the study year 2001/2002 there is increased attention paid to food Hygiene/public health items. There are five study courses related to food safety: Food Technology; Food Microbiology and Food Borne Diseases; Food Toxicology; Food Hygiene and Inspection, including meat inspection; Food control and marketing, including HACCP system.

The aim is to let veterinary students to develop the comprehensive understanding of the factors affecting the quality and safety of food, the methods used for the assessment of the fitness of food for human consumption and the decision making process; to understand the meaning of the terms "food chain from stable to table" (including the primary production, food processing, marketing and catering), especially in relation with food of animal origin.

The studies include two parts: part one - basic training (theoretical lectures; intramural practical works - groups of 15-16 students at the VMF/the Faculty of Food Technology; observation visits to the meat, dairy, fish processing and other food plants; training in the slaughterhouse; food safety, quality and hygiene legislation); - other part, where later these skills are strengthened and further developed - during the obligatory extramural praxis with the inspectors of the PVD (4 weeks; see also Ch.4.1.4.) After the training, the discussions between the teaching staff and students are organised.

During discussions, students present a case work which has been done, demonstrating their understanding of the main problems which have been identified during the training related to the food safety and the main conclusions and proposals drawn out after the practical training.

Indicate the distance to slaughterhouses where students undergo training, and the species covered. Outline the structure and the frequency of these Visitations (group size, number of trainers, duration, etc.).

For the intramural „hands-on" *ante-mortem* and *post-mortem* training of pigs and cattle students of the 6th year visit the nearby slaughterhouse. They are divided into small groups (max 10-12 students); have a training supervised both by the teacher of the study course "Food hygiene/meat inspection" and a meat inspector of the slaughterhouse. Poultry meat inspection is observed during the poultry farm visit; practised during the extramural praxis with the PVD. The animal stunning and meat inspection procedures; the decision making processes are discussed with students before the training, during it in the slaughterhouse and after during the desk works.

The list of slaughterhouses/food establishments and distances to the VMF see in the Annex II.

4.2 COMMENTS

The way in which the veterinary curriculum prepares the graduate for the various parts of the veterinary profession, especially under the specific conditions prevailing in your country/region.

The present Curriculum allows training of sufficiently well-qualified veterinarians able to work in the clinical practises, governmental services, food inspection, veterinary medicine distribution etc. Bigger choice of elective study courses would be beneficial.

The way the curriculum is structured and reviewed.

The VMF has all the freedom to develop further the Curriculum in the frame on financial availability, which needs improvements.

The major developments in the curriculum, now and in the near future.

The Curriculum has been intensively developed during the past years with the aim to improve the proportion between theoretical and practical lessons, course planning etc.

The major development during last years was the introduction of the Clinical Rotation Praxis and its Final Work. In the future there is a plan to intensify the Heard Health teaching with creation a separate study course; increase the number of professional Elective courses. Under discussion is also is the plan to introduce an elaboration and defence of Final graduation Thesis as an alternative to State examinations or the part of it.

The local conditions or circumstances that might influence the ratios

Taking into account the big changes in the structure of agricultural production, especially in the animal husbandry during last 20-30 years, the number of farm animals and horses as such and consequently the numbers of large animal patients in the VH has essentially decreased and for the farmers medical help in the place of residence is financially more suitable; so several problems have arisen in acquisition of practical skills in veterinary work. Shortage of large animal patients in the VH is compensated by using animals of the farm "Vecauce"; field-trips organised to some private farms (see the list in the Annex I) in such subjects as Large Animal Reproduction, Internal Diseases and Herd Health Management; Mobile Clinic activities; teaching animals (cows, calves) of the VMF. At the same time there are many small animals patients in the VH etc. what leads to the situation that in the present Curriculum the ratio between theoretical/practical, clinical training - almost reaches the minimum recommended value (0.55). Ratio of the clinical work and laboratory/desk based + non-clinical animal work is 1.36, what is adequate to the requirements of "Evaluation of Veterinary Training in Europe Standard Operating Procedures".

Ratio of the self-direct learning and teaching load, as well as the hours in food hygiene field is closed to recommended range.

4.3 SUGGESTIONS

If the values in 4.1.6 for your Establishment are not meeting the range as indicated in Annex IX, what can be done to improve the ratios?

Even the Ratios of the Curriculum are satisfactory; it would be advisable to further increase the proportion of practical training by:

- improving the structural proportion between the different types of training without increasing the total number of lessons;
- to establish a proportion between self – direct learning/supervised training 16/24 (in the frame of one credit points - 1 CP);
- to increase according to the possibilities the number of large animals in–patients and out–patients to better ensure clinical and practical training of students.

It is planned already to add some elective subjects considering the demand of real life without increasing the total number of hours in the 6-year study programme.

Chapter 5 – TEACHING AND LEARNING: QUALITY AND EVALUATION

5.1 FACTUAL INFORMATION

5.1.1 THE TEACHING PROGRAMME

Describe the measures taken to ensure co-ordination of teaching between different departments, sections, institutes and services.

Co-ordination of teaching is ensured by the MMK, established in the VMF (operational rules are accepted by the Senate of the LLU on 9th of April 2008), chaired by the Vice Dean of Studies, who has the responsibility to monitor the quality of the study program – review the proposed changes in the study courses; analyse the curriculum and co-ordinate the teaching between different departments and institutes; give suggestions for changes in content and structure of the study program and study plan (curriculum). In case of need the MMK conducts negotiations regarding the contents and the volume

of the subjects with the academic staff of other faculties taking part in the teaching of veterinary students; discusses complaints from students and looks for solutions. Initiative for any changes in the Curriculum may come from the leading teacher and/or Institute.

The Director of the study program is fully responsible for all the aspects of the quality of the teaching process and he/she is a member of the **University Board of Studies;** represents veterinary studies at the LLU level and explains the needs of the veterinary curriculum to other bodies of the LLU.

Besides the work done by the MMK, supervisors of the interrelated study courses often meet to coordinate operational matters related both to the content of study courses and for the planning of material supplies etc.

The VH is the main site for the practical/clinical trainings of students, it is very important to coordinate activities between the Institutes of the VMF with the work of the VH. So, every time before the start of a semester the administration of the VH is informed about the study plan and the needed resources – premises, materials, animals etc.

To ensure the study needs a special body – **The Council of the VH** is established. It evaluates the results of the VH, consults the managers of the VH, and accepts strategic development of the VH.

Describe the pedagogical approach of the institution. In particular, describe the use of newer approaches, such as problem-based learning, interactive computer-assisted learning, etc.

The nowadays learning process is connected with modern information and communication technologies. These technologies can provide universal and continuous access to education, the delivery of quality in learning and teaching and better learning process management.

Understanding these benefits, starting from August 2010 the LLU implemented e-learning environment for educational needs, this is based on MOODLE (Modular Object-Oriented Dynamic Learning Environment). A platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments. Therefore LLU e-learning system continuously is synchronised with the LLU student information system, to organise student access to study courses. This system becomes more and more popular and currently it is about 70000 connections per month from students across all university.

During the study process, the VMF actively uses these system possibilities. Main priorities are to empower and support staff to develop and deliver effective approaches to teaching by innovative use of technology. Main activities in the e-learning system which is provided by VMF are:

- creation of a digital library for the study course curriculum – several resources that the VMF members can use to support the learning process, such as documents, presentations, links, picture galleries or video-materials;
- assignments – enable teachers to grade and give comments on uploaded files and assignments created online
- feedback delivery – creating surveys to gather data from students, forums, chats and webinars to communicate with students;
- curation of glossaries – allows participants to create and maintain a list of definitions which helps young students to understand specific of subject;
- quizzes – allows the teacher to design and set quiz tests, which may be automatically marked and feedback and/or to correct answers shown.

Currently, several teachers of the VMF use an e-learning system as support tool, e.g. such study courses as Pathology, Latin language, Animal Biology, Histology, Surgery and other courses. Teachers are encouraged to substitute classroom lectures with more interactive study methods.

Already basic science subjects from the first year of studies already include a substantial part of hands-on practical sessions, e.g. anatomy – dissections; histology – microscopy; biochemistry, physiology, microbiology – laboratory practice, etc. Video and CDs are used to demonstrate the physiological functions and pathological processes in animals.

Animal production aspects are taught during several study courses, e.g. during veterinary hygiene and animal protection there are 2 type case studies. One – discussing the situations seen in video material, e.g. about problems in transportation of farm animals, geese keeping etc. Second – discussion on the animal welfare situation during farm visits (dairy cows and cattle, pigs, sheep, goats, horses fur animals, poultry; as well in the pet shelters, hotels, zoo). Students look for animal welfare indicators (both animal behaviour and environment), document, analyse, present results for study group, discuss, make the situation evaluation and propose recommendations.

The VMF realises, that one of the major learning objectives is the acquisition of problem-solving skills. Students have individual tasks under different courses. They have to make investigations, perform manipulations and train the skills. In most study courses students have to choose a case, which has to be analysed based on scientific literature and presented. During desk works (seminars) the theoretical clinical cases are analysed as well. The application of case studies and a problem oriented approach during recent years has increased substantially in the teaching of clinical subjects and pathology, especially with the development of the so called Clinical Rotation praxis. Problem solving skills are specially import for "Heard health management", where students learn to obtained information, analyse it, formulate a problem, propose solutions and later present the cases and discuss with the rest of the students of the year during a seminar. The main topics for problem solving are „Reproductive problems in the dairy herd", „Nutritional and metabolic problems", „Lameness problems", „Animal welfare problems" etc. During desk works there are discussions organised on the heard health planning.

To think about animal welfare and ethics for several manipulations students before learning on live animals train the skills on simulators. The VMF has started to create a preclinical simulator laboratory - e.g. to learn fixation of animals; injection technics; to put in stiches, bandages, dressings. Intravenous (neck, leg and different sizes of veins) are used to get skills on blood sampling and IV catheter placing on different types of models. Animal intubation and artificial breathing pressure control model and animal heart examination model horse nervous blocks and intramuscular injections simulators are available.

Surgery hands on training boxes are made to improve surgical (instrumentation and suturing) skills – pig, small animal cadavers and parts of them from euthanized animals are used to teach basic surgery techniques, including castration/sterilisation of dogs/cats etc. To teach nail trimming, foot care etc. feet and nails of large animal cadavers obtained from the slaughterhouses are used. Students can learn assistance for difficult parturition on two phantoms in obstetrics and gynaecology (see also Chapter 7).

Modern equipment in the VH allows following surgical interventions on the screen on distance via audio-video translation system. It is used mostly during complicated surgical operations and demonstrations.

During food hygiene trainings, case studies using both visual observations and media materials (on-line resources and video-files) are used.

Indicate the extent to which course notes are used to supplement or substitute for the use of standard veterinary textbooks.

In recent years variety and numbers of copies of basic veterinary textbooks and other relevant literature (mainly in English, German, few in Russian, Latvian) has significantly increased both at the FL and reading hall, as well as in the VMF Information centre (local library) and the students are encouraged to use them. Students have access to a range of relevant databases through the LLU library as well (see Chapter 8). If years ago for many students it was a problem to use information in English, then nowadays it is widely practised.

However, a variety of lecture notes and complementary information forms such as paper printouts, PowerPoint presentations, lists of literature, references to textbooks, articles, video-films, and examination sample questions are widely used by lecturers to supplement textbooks. E-learning environment and e-mails are used as well.

Video-films and CDs are used in anatomy; histology; food hygiene, veterinary pathology. Several videos are produced by staff itself (physiology; ethology; general pathology; obstetrics and gynaecology, food hygiene and others).

In the practical teachings of clinical subjects such materials as X-ray and ultrasound pictures; electrocardiographs, clinical case pictures; results of blood tests are used. In the VH there is a data base of the results of visual investigations, which is used during trainings process as well.

Describe (if applicable) any established or contractual arrangements that support undergraduate teaching between the Establishment and outside bodies, e.g. farms, breeding centres, practitioners, state veterinary services, factories/processing plants, outside laboratories, etc. Briefly describe how these arrangements work out in practice in terms of the contact this provides for all students or for selected students.

The VMF has formal co-operation agreements and informal cooperation (see below) with a number of outside bodies such as farms, veterinary practitioners, Institute of Food Safety, Animal Health and Environment BIOR; PVD and others. There are agreements with several farms regularly used for training purposes and some farms are visited "on case by case" basis, including the main production animal species (dairy and beef cattle, pigs, sheep, horses and chickens), allowing to make farm visits for various learning activities. There is a close cooperation with veterinary practitioners and private clinics for the ensuring of extramural practise (see Chapter 4) and with food enterprises and slaughterhouses as well (see Annex I and II).

There is a general agreement between the VMF and the PVD on the practical training of veterinary students in the field of official control and meat inspection. The PVD provides supervisors for students in the regional offices of the PVD and conclude individual sub-agreements between the PVD, each student and the VMF for the training period. Students work according to the program for practical training provided by the VMF (see above). Additionally there is a bilateral long – term agreement of co-operation with the Institute of Food Safety, Animal Health and Environment BIOR both in student teaching and common research projects.

Students are active to take part in the **ERASMUS+** mobility program. As from the 2014/2015 study year the VMF has renewed the ERASMUS+ bilateral agreements with 19 veterinary schools of the EU and associated countries, including the possibilities both for intra-and extramural studies and training.

Table 5.1: Incoming and outgoing student mobility program (last three years)

Activity	Years	ERASMUS+		Other activities [A]
Student mobility		SMS	SMP	
Outgoing mobility	2014/2015	2	19	11
	2013/2014	4	10	9
	2012/2013	6	10	30
Incoming mobility	2014/2015	1	4	13
	2013/2014	1	2	27
	2012/2013	1	1	0

SMS – student mobility for studies
SMP – student mobility for practical training
A – activities related to BOVA-NOVA network and previous ERASMUS IP framework

Totally the VMF students have been practising in more than 13 EU and associated countries. The most popular are schools in: Finland, Austria, Czech Republic, Estonia and Italy.

In the framework of **NOVA** (The Nordic Forestry, Veterinary and Agricultural University Network) **– BOVA** (the Baltic Agricultural, Forestry, Veterinary University cooperation Network) network, the VMF can have teacher networking and collaboration; can take part in the intensive courses for Bachelors, Master and Doctoral students. Every year LLU makes a certain financial contribution to the BOVA network that gives the rights to participate in and/or to organize the courses. The LLU and the VMF in particular have used the possibility of the calls for the applications for organization of NOVA-BOVA courses and received teachers from member universities for the seminars and trainings.

Describe the general learning objectives underlying the veterinary curriculum and how this is ensured.

The main goal of the program is to balance theoretical and practical training and coordinate the various groups of subjects; in a way that the knowledge, clinical skills and experience may be acquired in a manner which will enable veterinarians to perform all their duties successfully in different areas of activity requiring veterinary education – in large and small animal veterinary practice; in government service; in animal disease diagnostic and food laboratories; in companies manufacturing and marketing veterinary medicines; in food establishments, in veterinary research and educational institutions; as well in international institutions and organizations contribute veterinary competence. Learning objectives are ensured by several educational conditions. A strictly balanced curriculum where each study course/subject has its own description, which includes its name; annotation; included topics; number of lectures and practical works; learning objectives; type of examination; number of

credit points, list of literature; supervising academic staff. The qualification after graduation is – „Veterinarian". Graduates can continue their education at PhD (Dr.med.vet.) level.

The curriculum is regularly developed and updated to make it more structured and comprehensive with balanced theoretical and practical training. There is a big attention paid to ensure the high quality of the teaching staff, applying appropriate study materials and teaching methods. Last years the training facilities are much enlarged and equipped with the most modern medical technique and instruments, allowing students both to learn modern diagnostic and treatment methods and to increase the patient load as well.

Describe how the Establishment collects the data required to ensure students are equipped with these Day One Competences (evidence of learning).

Students knowledge and skills are periodically evaluated during the whole teaching process, but for the purpose to ensure Day-one skills (described in the Annex IV of the Manual of standard operating procedures EAEVE, amended in May 2012 „List of recommended essential competences at graduation: "Day one competences"**)** there are several specific activities performed. First, it is found which study courses covers each of the specified skills, then supervisors of study courses discuss between themselves the teaching process to ensure that skill is acquired duly.

Starting from 2016 autumn semester the „Registration note-book of acquired clinical skills" is reintroduced. The note-book includes 2 levels of manipulations – the first level – manipulations which each student has to be able to perform and has to get approval from their teacher or supervisor that their skills are at a sufficient level; the second level – the manipulations which student has had observed at least. The note-books are distributed to third year students and they have to be filled in until the end of Clinical Rotation Praxis which ends with. Students don't have access to Final State examinations without proving the acquired skills.

Additionally to this during the final examination students must demonstrate the part of the Day-one skills also passing a two-level examination process (see Chapter 5.1.3).

5.1.2 THE TEACHING ENVIRONMENT

Describe the available staff development facilities, particularly in relation to teaching skills.

The quality of teaching and learning at the LLU is assessed through the recruitment and evaluation of the development of the teaching staff, as well on the "case by case basis". Each year the teaching staff has to prepare the report of their pedagogical and scientific activities (the list of scientific publications of the staff of the VMF see in the annex IX). It is discussed in the meetings of the Institutes. These results are used also in the process of the evaluation of the academic personnel, in case of re-election (each 6 years; Election rules for the academic staff are adopted by the Senate of the LLU No. 8-36 of 11th of December 2013 - http://www.llu.lv/sites/default/files/2016-05/8-36_Nolikums_par_akademiskajiem_amatiem.pdf).

It is a requirement of the Law of higher education to stimulate continuing education and ensuring a teaching quality of the academic staff (RCM No. 662 of 2014; decision of the Senat of LLU No.6-6 of 14th of Mach 2007). Every academic staff member needs to develop their knowledge and skills in teaching methods. There are permanent possibilities for them to participate in the educational program of LLU **„Innovations in didactic in higher education"** (http://www.llu.lv/lv/metodiskais-darbs-un-macibspeku-kvalifikacija). This program is organized in the form of modules (one module 4 academic hours). Each member of academic staff has to go through 10-16 modules during the election period.

Every year there is a conference at the LLU on the teaching methodology, during which academic staff from different faculties present their experience in acquiring new positive pedagogical methods and the results of their application. This allows exchanging views among teachers of different faculties and improving the teaching process.

Staff development is achieved also by applying short and long-term qualification improvement forms (seminars, courses, conferences, symposia, workshops and exchange visit) at home and abroad; professional courses at foreign universities (e.g. University of Cambridge, Justus Liebig University of Giessen, University of Liege, University of Veterinary Medicine Hannover, University of Bern), conducting research projects with the preparation of scientific articles and reports etc.

Academic staff of the VMF takes active part in ERASMUS mobility programs; staff of the VH has possibilities to attend international specialized courses, e.g. in the framework of European School

for Advanced Veterinary Studies (ESAVS). During the years 2015-2016 four ESAVS course attendances were financed by the VH.

When foreign scientists and specialists are invited to deliver lectures and practical trainings (more detailed information find in Chapter 11), these are used also for exchange of experiences and obtain new skills as well for teaching staff.

The members of the academic staff of the VMF are consulting students in veterinary schools of several other countries (e.g. give lectures in the Veterinary Academy of Lithuania; give lectures and consult PhD students in two Universities of Kazakhstan).

The Faculty is involved in the activities of TEMPUS projects, e.g. the project for the University of Agriculture, Medical University and Technological University in Tajikistan together with the Veterinary Academy of Lithuania and the Slovak University of Agriculture in Nitra to help to develop the curriculum, the new study course in food hygiene for master level students.

Describe the available systems for reward of teaching excellence (e.g., accelerated promotion, prizes, etc.).

Every knowledgeable, skilled, well recognized by students and veterinary society academic staff member can be awarded with a 9 different awards of the LLU (Annex to the LLU Senate decision No. 8-113 of 8th of October 2014); awards of local authorities; ministries; professional associations (LVB presents its members skilled veterinary teachers with the Honorary Member title); the Cabinet of Ministers. As the highest state award the academic staff can be decorated with a "Three – Star Order". Teaching excellence is becoming more and more important.

Special recognition is made during the annual Methodological conference of the LLU to teaching staff that has produced the best teaching material or a book.

Besides there are several other types of recognition, e.g. Students Self-government has introduced a prize for the Best Dean, The Best Vice-Dean of the Year; The Most Inspiring Teacher; The best scientist of the Year etc.

As a reward for many year's standing pedagogical and research work the academic staff members can be awarded the title of Docent Emeritus or Professor Emeritus, or State Emeritus Scientist (RCM No. 692 of 2010).

Describe other measures taken to improve the quality of teaching and of learning opportunities.

The teaching quality is the main concern of the academic staff and supervisors of the study courses. The issues are discussed regularly both on the ad-hoc basis and during the meetings of the MMK etc.

In several study subjects guest lecturers are invited from different Latvian establishments, enterprises and institutions. Officials from the PVD are coming to talk about the tasks and structure of the Service as well as about the recent trends of activities of the Service, the implementation of the latest legislation etc. Veterinary practitioners give details about their praxis management.

Guest lecturers from the schools of other countries are invited both in frame of ERASMUS and NOVA-BOVA cooperation net, as well in the frame of actual research projects or other activities (e.g. project finances by Swiss government "Swiss researchers activities in Latvia").

To increase the study process quality and veterinary training skills we invite and hire on contract officially recognised European and/or American Board of Veterinary Specialisation (EBVS/ABVS) specialists, for example diplomates of ECVO/ACVO, ECVDI, ECBHM, ECVD/ACVD, ECVS, ECVVA. An important contribution to the acquirement of theory and practical skills is made by guest lecturers and specialists-practitioners from abroad (Belgium, Switzerland, Germany, Italy, United States, Canada, Sweden, Denmark, Norway, Finland, Lithuania, Slovakia and Poland). This co-operation is constantly being extended on a regular basis. They are invited to provide lectures, seminars and practical training in large and small animals. Topics include surgery, ophthalmology, anaesthesiology, heard health etc. It is possible because of the well-equipped VH.

5.1.3 THE EXAMINATION SYSTEM

Is there a central examination policy for the Establishment as a whole? If 'yes', by whom is it decided?

The LLU Regulation of Studies (Senate decision No. 8-182 of 10th June 2015; http://eng.llu.lv/getfile.php?id=19749) describes the general rules of the examination system of the

LLU. It states that control of obtained knowledge and skills has to be regular during the whole study process. The specific types of control have to be mentioned in each study course/subject program (special/laboratory tasks, home tasks, reports, colloquiums, workshops, tests, exams etc.).

Academic staff is free to perform continuous assessment and choose intermediate control methods, which at the end have to be modified in line with the above mentioned way, corresponding to the type of evaluation mentioned in the study course program and curriculum. Students' knowledge and skills are evaluated by the teacher who is responsible for a particular study course/subject or person authorized by him/her. The lecturer who examines students establishes the examination procedure, questions and their nature.

Different support materials allowed by the lecturer may be used at the exam. Time limit of the examination for one student may not exceed 4 hours.

At the LLU there is a central examination policy, i.e. a 10-point scale for evaluation of knowledge. 4 (fair) is the lowest positive assessment. Apart from exams there is such an evaluation of knowledge as "pass" and "fail" test which also can be without or with a mark. Such a test is cumulative of all intermediate control results of the corresponding study course/subject or its part.

Students who have successfully passed all requested knowledge and skill controls or have not more than 3 academic debts, (no debts are allowed in exams/tests of anatomy, histology, physiology to register for the 3rd year) may be registered for the next study semester.

Are there special periods (without teaching) during the year for examinations?

The four-week examination session is at the end of each semester, where there is an evaluation if students have fulfilled all obligations related to the study course/subject program, according the curriculum. During the examination sessions no teaching activities take place. Usually there are about 6-10 tests/exams during each exam session. Between two examinations there must be at least 3 days.

What form(s) of examination are used (written papers, multiple-choice questions, oral, practical, clinical examination, continuous assessment, etc.)?

Examinations can be theoretical: written, oral, as a test or a mixture of multiple-choice and open-end questions; practical manipulation according to 1st day skills test book, practical as a clinical or laboratory examination etc. Specific procedures are related to the Rotation praxis where students have to defend final work of rotation praxis, which includes case studies, summaries from the scientific literature, conclusions etc.

Is use made of external examiners?

External examiners are not used in regular examinations, but they are regularly used at the final state exams. The chairman of the state examination Commission usually is some prominent veterinarian outside the VMF.

In order to award the qualification of veterinary surgeon after graduating from the VMF, a state examination commission is formed from 7 members including the director of the program, leading teaching staff. The chairman of the State examination commission and at least half of the members of the Commission have to be representatives of corresponding professional organisations and employers (Decision of the Senate No. 8-65 of 9th April 2014). The members of the state examination commission each year are accepted by the LLU Rector's order on the basis of the decision of the Council of the Faculty.

There are three state exams:

- Infectious diseases, Hygiene ;
- Internal Medicine, Pathology;
- Surgery, Reproduction.

Each state exam consists of two parts – „general questions" and „problem solving situation". The first part – general questions – consists mainly of 100 multiple choice questions regarding the whole range of clinical, food safety and veterinary public health related disciplines for all species. The second – a problem-solving part – each student gets a problem or scenario and he/she must find the solution to it.

How many retakes of an examination are allowed?

One examination may be taken no more than 3 times. Repeatedly taken examination or test is permitted after paying a certain fee. For the third retake of an examination a three-academic staff

commission is formed by the Institute. If this commission also evaluates the students' knowledge as unsatisfactory or the student does not succeed in passing the examination during the following semester he/she has to take the whole course again paying the corresponding fee.

If a student wishes to improve a positive mark in any study course he/she may repeat the test or exam for an additional fee after competition for state financed places.

The academic staff is competent to expel a student from the examination who does not follow ethics of taking examinations (who behave dishonestly, who are caught cheating) – use not allowed support material or other persons' help, behave offending the lecturer or others in the examination room. Repeated dishonest behaviour can serve as a reason for ex-matriculation. If there are more than three academic debts, the student has 2 options – to pass missing tests/exams during the next semester or repeat the same study semester paying a full study fee for corresponding period.

If the student fails the final/graduation evaluation he/she is ex-matriculated and can take a repeated attempt of a final evaluation after a year.

Do students have to pass the examination within a certain time?

Exams and tests not passed during examination session are considered as academic debts.

Do students have to pass an examination before they can start other courses?

The student is not allowed to pass the any study course if he/she has failed to pass certain other study course which is described as compulsory pre-requisite in its program.

5.1.4 EVALUATION OF TEACHING AND LEARNING

Describe the method(s) used to assess the quality of teaching and learning in the Establishment.

Important indicators of the quality of teaching process as a whole are the results of final-state examinations. They are analysed both by the Examination Commission itself and by The MMK as well. If the conclusion is that in any area the level of the knowledge and/or skills of more graduates is not sufficiently high, the MMK undertakes deepened investigation of a particular study course content and teaching level. According to this the decisions are taken to improve the teaching quality, adaptations are made of study courses. In exceptional problematic cases the Director of the study program or the MMK asks a teacher of the specific study course to hand in expanded lecture material or organise the overhearing with participation of other academic staff in the lectures and practical trainings. A similar process is established in case of other signals for the need of improvements.

Teachers are evaluated as part of the process of elections for the academic positions.

Indicate whether the evaluation is an Establishment procedure, or one set up by individual departments, by students or by individuals.

The quality of teaching is a high priority of the staff of the LLU and the VMF. Part of the evaluation, e.g. the electronic system which gives the possibility to the students to express their opinion on the teaching quality, is operated by the LLU; other forms of the evaluation are elaborated by the VMF – from the year 2015 the VMF has started questioning also of the first year students on their satisfaction with the studies in general and to get to know their motivation for the studies. The results were discussed at the Council of the Faculty (see Annexes X,XI). Usually teachers are also asking for the opinion from the students.

Indicate the use of external evaluators.

There are regular (each second year) questionnaires sent out to the graduates-veterinarians with the aim to get a view on the quality of the undergraduate teaching from the perspective of the professionals working in the field, knowing better the requirements of the labour market with the aim to find out the possible week elements of the study process and be able to improve it, as well as to collect information on the needs for the future postgraduate trainings. The last questionnaire to the graduates was given during the annual (2016) conference of the LVB (see Annex X). There was a questionnaire distributed to the graduates of 2016, asking the evaluation and suggestions for the whole teaching process during study years. They made suggestions for some reallocation of study courses between study years and semesters.

External examiners are involved in the Final State exams and they make suggestions for the improvements of the educational process in the VMF.

Describe the role of students in the evaluation of teaching and teachers.

There is an electronic system in place in the LLU (available in the LLU webpage) to give the possibility to students to express their opinion on the teaching quality. Two times per year at the end of the semester, students are invited to evaluate the study courses by the content of the course, the quality of the presentation, etc. The process is anonymous. It is possible to include observations, comments and proposals as well the suggestions for the improvement of the teaching process. Unfortunately, we have to admit that the activity of students in this area is low. Besides students are encouraged to give in proposals for the improvements of the study process or complains in written any time. All applications are discussed with persons involved. We can admit that Student self-government of the VMF is rather active in this way. The MMK (student representatives are included) discuss all student submissions related to quality of educational process. Academic staff members usually also collect more specific feedback information about their study course.

Describe the follow-up given to the evaluation.

All the evaluation results of an electronic system are available to the Director of the Study program/dean. Directors of Institutes have access to the study course evaluations related to the field of responsibility of the corresponding Institute. The evaluation results related to the certain teacher are discussed by him. Positive evaluation results are a precondition for repeated election of a teacher in a position. All results of the State exams as well as of different evaluations and questionnaires are analysed by the MMK, elaborate recommendations and report to the Council of the Faculty.

5.1.5 STUDENT WELFARE

Describe any measures taken to protect students from zoonoses (e.g. rabies) and physical hazards

The general rule is that at the start of studies students got instructed on general risks, most general safety rules and the action in case of emergency. Besides before each praxis or specific activity students are informed about specific risks related to the work (see also Chapter 6). Each laboratory is provided with corresponding instructive materials and soap, disinfectants, first aid set, eye protective solutions etc.

In laboratories, in the VH, in facilities where pathology is performed special attention is paid to zoning “Clean” and “Dirty”, as well special protective clothes and change before entering and leaving. Special clothing has to be used also when farms are visited.

Even if Latvia is free from rabies, during the second semester students are vaccinated against rabies. It is planned from the year 2016/2017 study year to insure all student health against accidents during the study process.

Describe the facilities (not related to the teaching programme) which the establishment provides for students.

The LLU supplies students with accommodation – **student hostel**. Students of the VMF live in hostel No. 9 and No. 10. Foreign students live in the hostel No. 8. There are a flat type facilities consisting of 2 separate rooms for 4 students. Depending on the comfort level there are different rent prices – 39 EUR per month/per student for simpler conditions; 60 EUR per month/per student for renovated facilities (with sanitary facilities included). The renovation and further improvements of hostel facility is going on.

There is a canteen at the VMF; dining hall and cafeterias in the main building of the LLU. They offer a large variety of food for students and employees during breakfasts and lunches. Everything is available for reasonable prices. The cafeterias are open every working day from 9-16. In addition there are also vending machines where students can get coffee or other drinks both in the VMF and in the main building of the LLU. There are several eating establishments also in the city Jelgava.

The LLU provides wide opportunities to participate in **sports** to its students and employees. First, sport hours are included in the curriculum. The LLU has two sport halls, a swimming pool, space for aerobics, martial arts, fitness equipment, as well as a sports ground and horse-riding sports centre. Sport classes are available: basketball, volley-ball, ping-pong, track-and-field athletics, Greek-

Roman wrestling, judo, aerobics, floor ball, orienteering, football, weight lifting, badminton and horse-riding. Employees have the opportunity to participate in six kinds of sports. The most important sporting events are: the 1st year students' tournament in 9 kinds of sports; The LLU "Universiade" in 11 sports; Inter - University competition during Student Days; Torch race; Student games for secondary vocational educational establishments; The event "The 1001st Night"; EDAF (events dedicated to Fraternity anniversaries); Aerobics; the LLU faculty Sports festival; Employees' Sport Days.

Describe the guidance offered by the Establishment (or its parent institution) for students with problems (social problems, study problems) as well as for future career development or job selection.

There is a strong policy in the LLU to create possibilities to study for **students with special needs**. All the new and restored buildings of the LLU and the VMF in particular are wheelchair accessible. The work in this direction goes on.

Concerning **financial matters** there are several solutions. **Firstly**, each year there is announced the number of **government financed places** for the best students in each year group on the competition basis. There are 209 budget places in the VMF. Others have to pay study fee. If there is the same number of points for several students according to the rules of the corresponding the LLU order (http://www.llu.lv/sites/default/files/2016-08/Konkurss_uz_valsts_finansetajam_vietam.pdf), the priority is given to invalids, orphans, young people coming from the families having the status of poor family etc.

Secondly, the best students can have a Government scholarship (**RCM regarding scholarships No. 740** of 2004 - http://likumi.lv//ta/id/93004?&search=on; LLU Rules regarding scolarships, accepted with the Senate's decision No. 9-29 of 8th June 2016. Each year the LLU and the VMF gets certain amount of money for scholarships. The VMF gets usually 27 stipends each year (996 EUR per year per student). In the begging of each semester it is decided which students can get those scholarships according to the results of exams, but in case of equal marks the priority is given to invalids, orphans, students from poor families. Besides this, there is a foundation for special scholarship (1163 EUR per year). 2/3 of this money is handled by student self-government and 1/3 by the VMF.

Thirdly, there are foundations giving financial support for specific aims, e.g. „Scholarship of Ludvigs Kundziņš", which is given every year to one the third year student with the best average mark in the „Animal anatomy course"; Scholarship of „Baltic Breeders" and others as a study support, for scientific investigations or participation in specific trainings, praxis or scientific conferences etc. NORDPLUS (Nordic countries foundation) giving scholarships to the last year students for the participating in the intensive courses (in 2015 spring semester 11 students of the VMF took part in the intensive course on „Comparative Animal Welfare Assessment" in Estonia in the Life Science University).

Fourthly, s**tudent loan** is available (RCM No. 220 of 2001) however student activity to take the loan is very low.

The **Students' Self-Government** – **Students Union** protects and represents the interests of the students at the LLU and also in other institutions, enterprises and organisations. It also organises leisure time activities. Two years in a row it has received the Annual Award from the Latvian Students' Union as the best Students' Self-Government in Latvia. The main activities of the Students' Self-Government are: involving new students in the social life of the LLU; organising the Thanksgiving concert for the employees of the LLU; organising the Latvian Nationwide Students' Days; organising the LLU Annual Awards ceremony; organising joint work events in the territory of the Palace; participation in the activities of the Students' Union of Latvia; participation in the Exhibition "School".

The **Students Career Service** of the LLU works in the framework of the Life Long Learning centre. The main tasks of it are: to organise seminars for students on the topics related to the development of a professional career; inform about the praxis possibilities, on the actualities in the labour market; to help graduating students in making contacts with the employers and finding the best jobs according to their qualifications. In addition this service distributes information about the study possibilities in LLU, about study program and career possibilities after graduation. Besides in the VMF each Institute takes care about certain study year students – curators speak with the students,

explain the rules, help to adapt to study conditions, advising the possible solutions in case of study or financial problems etc.

Students can participate in the educational seminars organised by the VMF or VIC for veterinarians on the reduced price or free of charge in case of voluntary work.

5.2. COMMENTS

Please give general comments about the quality of the teaching programme under the above headings.

In general the VMF considers that the quality and content of teaching is adequate, meets the needs of the profession and corresponds to the European standards. It is important to continue to improve integration of the objectives of different study courses to emphasise more the problem-based case studies and so to acquire in a better way of First Day Skills. More and more emphasis is being placed on new teaching methods, such as e-learning, self-directed learning, teaching on simulators, etc. The input from the students, by way of regular evaluations and through their presence in the most important decision making forums of the VMF and the LLU guarantees their involvement in all matters concerning the organization, quality and content of the study programme. The feedback system applied at the LLU at present allows us to monitor and methodically improve the quality of teaching. In the same time the activity of students to take active part in it is limited.

5.3 SUGGESTIONS

- Increase the use of e-learning and teaching on simulators;
- Further improve the quality and the safety of the learning environment;
- Provide every student and teachers working together with students with the health insurance and third part insurance;
- Improve the living conditions for students; organise more facilities in the VMF for individual studies;
- Improve communication and feedback from students;
- Increase the number of animals specifically prepared for teaching in clinical studies;
- Intensify the work with the Mobile Clinic.

Chapter 6 – FACILITIES AND EQUIPMENT

6.1 FACTUAL INFORMATION

6.1.1 PREMISES IN GENERAL

Please give a general description of the site(s) and buildings occupied by the Establishment and include a map.

Since 1964 the VMF is located in Jelgava. Jelgava is located in the central part of Latvia, only 40 kilometres from the capital – Riga – and is the fourth biggest city of the country by the population.

The campus of the VMF is located in the eastern part of Jelgava - 2.7 kilometres away from the central building of the LLU – Jelgava palace, and 3.5 kilometres far from the city centre.

The total area of the VMF campus is 7.3 hectares; 1.6 hectares are occupied by the buildings; the rest 5.7 hectares are occupied by roads, parking places, pasture ground etc. There are 14 buildings; the location of each building is shown in the Picture 6.1. Student teaching is taking place in 9 buildings (A, B, C, D, E, F, K, M and S), most of them are connected by the corridor (except the building F). Student dormitory (the building 1) is situated next to the VMF. Dining facility for students and staff members is located besides the main building A.

Picture 6.1: Map of the VMF campus

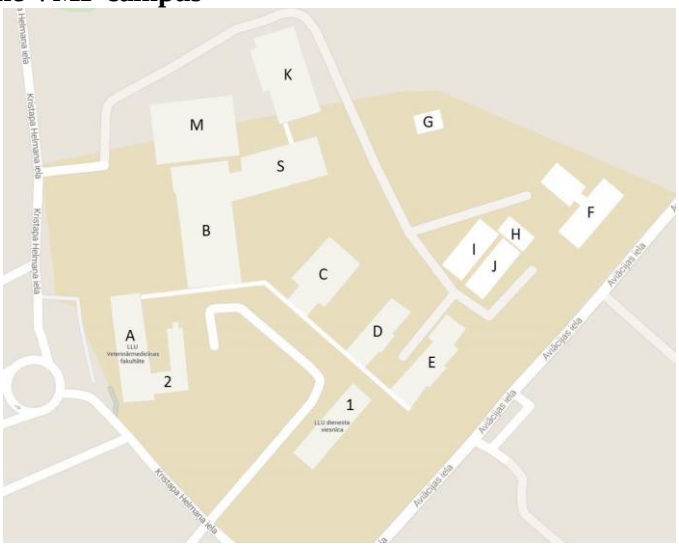


Table 6.1: Disposition of VMF departments by buildings

Building	Area, m^2	No. of floors	Department/division occupying entire building
A	2861.9	3	Administration of the VMF, Preclinical institute, Clinical institute, Information centre, Museum
B	1530.6	1	Clinical institute
C	705.9	1	Vivarium, Laboratory of artificial insemination and reproduction
D	827.1	1	Pathology and microbiology
E	576.1	1	Anatomical theatre
F	851.0	2	Institute of Food and Environmental Hygiene
G	59.6	1	Small animal isolator/shelter
H	284.0	1	Incinerator of biological waste
I, J	629.6	1	Storehouses
K	1170.6	1	Equine hospital
M	2135.9	2	Small animal hospital
S	1054.2	1	Productive animal hospital, stationary
1	3429.9	5	VMF Student hostel
2	312.5	1	Dining facility

In the last 4 years, using European funds co financing, 40% of the total floor area is renovated or newly built. Two buildings (S and D) were fully and one building (B) - partly renovated. Two new buildings (M and K) were also put into operation in the last years. Reconstructed buildings are designed according specific needs (workflow of clinics and labs, animal and human welfare aspects), they are adopted for disabled people as well.

Lectures and practical trainings in basic subjects such as chemistry, physics, botany etc. are taking place in the facilities of the other faculties of the LLU, most of them – in the main building of the LLU – in Jelgava Palace. The disposition of LLU buildings related to the veterinary studies is shown in the Picture 6.2.

Picture 6.2: Map of Jelgava with marked LLU buildings where the veterinary studies are taking place

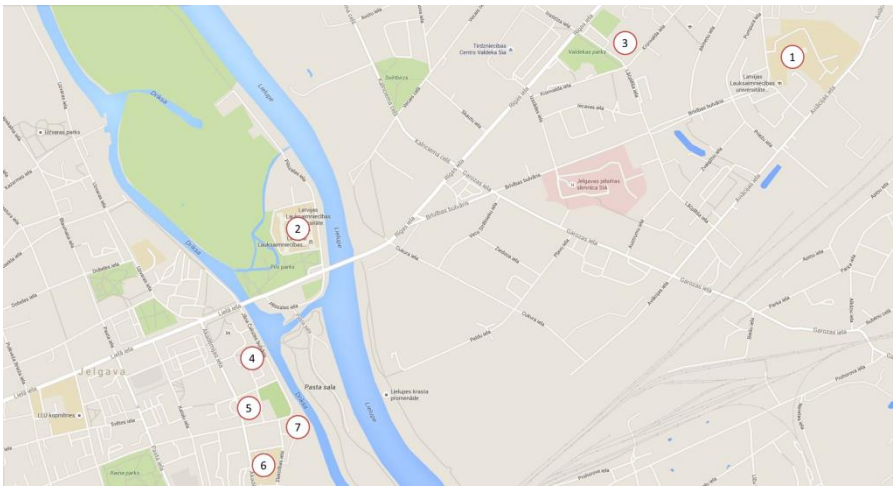


Table 6.2: The disposition of the departments of the LLU, where the veterinary studies are taking place.

Number in the picture 6.2.	Department
1	Faculty of Veterinary Medicine
2	Faculty of Agriculture
	Faculty of Information Technologies
	Faculty of Information Technologies
	Faculty of Economics and Social Development
3	Faculty of Food Technology
4	Faculty of Engineering
5	Forest Faculty
6	Faculty of Rural Engineering
7	Sport Centre

A number of clinical trainings, including clinical rotation praxis, are taking place at the farm "Vecauce" that is located 65 kilometres from the VMF to the south-west. There are animal holdings and the newly build veterinary block close to the dairy cow holding. It is equipped with animal fixation facilities for hoof treating and surgery facilities, stalls for diseased animals, clinical laboratory, changing and office rooms, as well as a seminar room.

In general facilities for veterinary studies are well equipped and in good condition but the newly reconstructed facilities for the clinical training, pathology and microbiology are exceptionally equipped.

6.1.2 PREMISES USED FOR CLINICS AND HOSPITALISATION

The information to be entered in Table 6.4 is the number of animals that can be accommodated, not the number of animals used. Certain premises may be used to accommodate different species of animal. If so, the same premises should be entered only once.

The VH consists of three buildings – Small animal clinic (building M), Equine clinic (K) and Productive animal clinic (S, including Mobile clinic) – with total floor area of 4360.7 m^2. The building S is reconstructed in 2012, but buildings M and K are newly build. Clinics are well planned taking into account correct patient flow (especially in the surgical areas, offering excellent possibilities for aseptic surgery), animal welfare and good working conditions for personnel and students. There are five hospitalization rooms at the Small animal clinic, four hospitalization premises in Equine clinic and three premises in Productive animal clinic (Table 6.3.).

Table 6.3: Types of hospitalisation premises

Small animal clinic	Equine clinic	Productive animal clinic
premises for intensive care	premises for intensive care	premises for pigs
premises for cats	premises for ambulatory clinic	premises for large ruminants
premises for dogs	premises for regular hospitalizations	premises for small ruminants
premises for exotic pets	premises for isolation	
premises for isolation		

The number of places available for animal accommodation is shown in Table 6.4.

Table 6.4: Places available for hospitalisation and animals to be accommodated

	Species	No. places
Regular hospitalisations	cattle	10
	horses	16
	small ruminants	10
	pigs	3
	dogs	12
	cats	12
	other – exotic animals (rabbits, rodents, avian)	3
Isolation facilities	farm animals and horses	2
	small animals	7

Additionally there are premises at the farm "Vecauce", where there is a specialised veterinary block for animal treatment, surgery and hospitalisation (with 50 places).

6.1.3 PREMISES FOR ANIMALS

Give a description of the facilities for rearing and maintaining normal animals for teaching purposes. If the Establishment has no farm of its own, please explain in the SER the practical arrangements made for teaching such subjects as animal husbandry, heard health, and the techniques of handling production animals.

Some clinically normal dairy cows, calves, horses, small ruminants and pigs are maintained at the VMF facilities. For teaching purposes the VMF owns five beagle dogs as well. The VMF's animals are used in such study subjects as Physiology, Clinical diagnostics etc. The students are involved in the animal keeping – feeding, watering, sanitary grooming, motions etc. A portable hoof trimming table is available at the campus. For every day needs (bedding (shavings, straw), fodder, material transportation) GAZ-53, SAZ 3507-22 and MERCEDES BENZ 1717 AK (specializes for large animal cadaver transportation) and VW PASSAT VARANT, but for visiting farms VW Combo (9 places), Toyota Hilux, Mercedes Benz Sprinter 316 (16 places) are used.

Since 1921 the LLU owns the farm "Vecauce". It has a wide variety of specialisations – agronomy, orcharding and forestry, production of biogas, apiculture and animal husbandry. Animal husbandry is orientated towards two directions – dairy farming and husbandry of beef cattle. There are around 1100 cattle together, 600 of them are dairy cows, 35 – beef cattle and 450 – young stock. Dairy cattle are kept in a modern free stall which was built in 2007. Two milking robots (DeLaval), a parallel parlour milking system and herd management system (Afimilk) are used for good management. This farm is running as a production farm and is widely used in teaching process as a model farm. There is also seminar room which is often used for discussions.

For many years the LLU owns the horse stable "Mušķi" that is used not only for riding sport for the LLU students, but also as a facility for teaching of horse husbandry and medicine. There are around 20 horses on site. Musķi is located only five kilometres away from the VMF campus, therefore it is easy accessible and if needed it is easy to bring a horse to the VH.

The LLU does not have any pig, poultry or small ruminant farm on its own; therefore the VMF is making agreements with private farms to provide teaching of all animal species (list of farms see in the Annex I).

To provide practice in the study courses such as animal husbandry and heard health, the VMF also has collaboration with private farms (see the list of farms in Ch.7).

6.1.4 PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING

The same room should not be entered under two or more headings, even if it is used, for example, for both practical and supervised work

The VMF has 5 lecture rooms, 7 seminar rooms and 14 laboratories (see table 6.6, 6.7. and 6.8.).

Table 6.5: Premises for clinical work and student training

small animals	no. consulting rooms	6
	no. surgical suites	8
	no. rooms for differential procedures (emergency care, manipulations, surgical preparation room, oncology, physiotherapy)	5
	no. diagnostic imaging rooms (US, endoscopy, X-ray, CT)	4
equine and food animals	no. examination areas	2
	no. surgical suites	3
	no. diagnostic imaging rooms (X-ray)	1
Other	simulator laboratory	1

Table 6.6: Premises for lecturing

Number of places per lecture hall						
Hall	No.1 (Auditorium No. I, A300)	No.2 (Auditorium No. II, A200)	No.3 (Auditorium No. III, B100)	No.4 (Clinic auditorium, M212)	No.5 (Auditorium No. V, F101)	No.6 (Auditorium No. VI, F103)
Places	113	48	115	56	54	110
Total number of places in lecture halls: 496						

Table 6.7: Premises for group work (number of rooms that can be used for supervised group work)

Room	No.1 (A109)	No 2 (A113)	No.3 (A302)	No.4 (B107)	No.5 (B110)	No.6 (B120)	No.7 (F210)
Places	17	17	24	25	19	25	18
Total number of places in rooms for group work: 145							

Table 6.8: Premises for practical work (number of laboratories for practical work by students)

Laboratory	No.1 (A101)	No.2 (A202)	No.3 (A211)	No.4 (A216)	No.5 (A307)	No.6 (A311)	No.7 (A312)
Places	12	20	16	16	16	16	12
Laboratory	No.8 (B106)	No.9 (C100)	No.10 (D102)	No.11 (D100)	No.12 (D107)	No.13 (D115)	No.14 (F201)
Places	15	21	21	14	20	22	12
Total number of places in laboratories: 233							

There more premises used for teaching of basic subjects situated in the other buildings of the LLU.

Please give a brief description of health and safety measures in place in the premises for practical work and in the laboratories to which undergraduate students have access.

During the practical work students must strictly observe safety regulations. In the beginning of each study course students are instructed by teachers on the safety measures: precaution when handling different animal species, pathological material etc. additionally to this written instruction is placed in each of the laboratories. Students have to put a signature in the special journal about the fact that they have received the corresponding instructions and that they agree to follow them.

Since 2016 extra safety measures are implemented for students having practical work in the VH. There was redone analysis of the most important health and safety hazards, risks for people, personal data protection; animal ethic and welfare conditions and renewed instructions prepared on basis of that.

During laboratory and practical work students have to be dressed in overalls. Depending on the profile of the activity, additional requirements have to be observed, e.g. – change of shoes, use of gloves, caps, face masks etc. The possibility for the disinfection of hands at the site of work is guaranteed. In all rooms, where there are substances that may cause a threat to the eyes, eye washes are located in easy to reach places, marked with the sign "eye washes". First aid kits are available in all sites.

All warning signs including of biohazards are placed on the doors in case a threat can be posed to the person entering room. At least one fire extinguisher is located in every floor according to legislation (RCM No. 82 of 2004 – http://likumi.lv//ta/id/84587?&search=on).

The Necropsy room is equipped with sanitary sluices in order to reduce a risk of contaminant escape from the room that my pose biohazard risks. All chemicals that may cause eye, lung and skin irritation either are kept in a storage rooms or in the storage cabinets with ventilation. Other chemicals are stored in the storage rooms and cabinets. All chemical vessels are marked with an informative label.

Medicines are kept in labelled cabinets and refrigerators. Drug storage is equipped with an electronic key to avoid entrance of unauthorized persons. Dangerous drugs (psycho-leptic and psycho-analeptic agents, narcotic anti-pain agents, myo-relaxants of central action) are stored in safes that are equipped with an alarm system according to the legislation (RCM No. 1456 of 2009 - http://likumi.lv//ta/id/202415?&search=on) and placed in drug storage room. Drugs are handed out by a responsible veterinarian after the signed request of the veterinarian responsible for the case according to the internal rules of the procedure.

All staff members are instructed about the safety measures before they are allowed to start activities. They also have been trained to give first aid in the case of accident.

6.1.5 DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES
6.1.5.1 DIAGNOSTIC LABORATORIES

Briefly describe the facilities available for clinical diagnostic work

The Clinical Laboratory is located in two rooms in the premises of the Small Animal Clinic. Two experienced laboratory specialists are employed. Their main responsibility is examination of clinical samples, but they are involved in student teaching as well. The Laboratory is equipped with haematology (Exigo EOS, Boule Medical AB), serum biochemistry (BS-120, Mindray), blood gas (Irma Trupoint, ITC), clotting analysers (Hemochron Signature Elite, Accriva Diagostics), urine biochemistry analyser (Combilyzer 13, Human Diagnostics), microscopes (one of those is connected to a LCD monitor for student teaching purposes), refractometers, glucose and ketone body-meters. The most frequently used analysis are – haematology and differentiation of leukocytes, serum biochemistry, blood gasses, blood coagulation parameters, presence of ketone bodies in blood, urine biochemistry and microscopy, faecal examinations (digestibility, blood presence, parasites), cytology of dermatological, oncologic and other samples, express testing (blood groups, infectious agents, pancreatic lipase).

The working time of the Clinical laboratory is from 9am to 6pm all working days and from 9am to 5pm on Saturdays. For the emergency 7/24 haematology analyser (BC-2800 VET, Mindray), microscope, refractometer and glucometers are available. During nightshifts and on Sundays external laboratory services are used for examination of serum for biochemistry tests in case of emergency.

The Clinical laboratory is providing services to scientific projects and Doctoral students from all structural units of the VMF.

Results of the clinical laboratory examinations are attached at the patient record and saved with software of the VH.

The Parasitology Laboratory is under supervision of the Institute of Food and Environmental Hygiene and is situated in the Building F in three rooms. The Laboratory provides services for the detection of agents of parasitic diseases, including proto-zoonosis in samples from live animals and *post mortem*, for the differentiation of ecto-parasites, diagnostics of helminthiasis – ovo-scopy and larvo-scopy. Staff gives consultations to veterinary practitioners and animal breeders, provides external services for veterinary clinics, animal breeders, veterinary practitioners, hunters. The Laboratory is also used for student scientific work, for PhD studies, for improving the professional qualification of veterinary practitioners. The working time of it is from 8:30am to 3pm every working day.

The Scientific laboratory of microbiology is situated in three rooms of the Centre of Microbiology and Pathology – two rooms for isolation and identification of bacteriological agents; one room – for mycological tests. The Laboratory is equipped with all key equipment for microbiological examination. There are 3 veterinarians – experts – working in this laboratory.

The Laboratory of Comparative Pathology is under supervision of the Preclinical institute and is located in several premises of the building D. The Laboratory is used for post-mortem diagnostics of infectious and non-infectious animal diseases, for studies of pathogenesis of diseases, for the detection of the cause of animal death (including forensic veterinary medicine). Undergraduate and doctoral students under supervision of the scientific staff do their scientific research.

The Laboratory of Artificial Insemination, Reproduction and Heard Health is under supervision of the Clinical Institute and is located in the Buildings A (Heard health lab), the Building B (animal examination area, simulator lab, facilities for the seminars), the Building C (two rooms for artificial insemination of animals). Ultrasound machines, rectal and abdominal probes etc. are used for the examination of the reproductive system; sperm analyser with software (gaining standardised and objective measures) – to analyse the sperm quality of different animal species; microscopic examination (with light and contrast phase microscopes) – for analysing fresh and defrosted sperm quality; phantom – for sampling a sperm from a boar. There are different storing opportunities for fresh and frozen sperm and equipment for sperm preparation before freezing.

The Laboratory of radiology and imaging – is situated in two Buildings (Clinical part of the laboratory – in the VH – see further; scientific part – radiology in building F).

6.1.5.2 CENTRAL CLINICAL SUPPORT SERVICES

Indicate the nature of these services and how they are organised (e.g. diagnostic imaging, anaesthesia, etc.)

Anaesthesiology. Anaesthesia service is organised separately for each of the clinics. There are two part time staff members specialising in anaesthesiology, one of them is diplomate of the European Colleague of Veterinary Anaesthesiology who is supervising anaesthesiology protocols, providing training and teaching of students. They are preparing guidelines and anaesthesia protocols for different situations, including protocols for emergency situations, they are observing how other staff members are following the protocols and they are taking part in the difficult surgical interventions as well. The veterinarians in the Equine clinic are experienced in horse anaesthesia. In the Small Animal Clinic and in the Productive Animal Clinic an internist or a surgeon is treating an animal, but usually nurses are observing animals during anaesthesia.

Diagnostic imaging. There are two diagnostic imaging units in the VH – the Small animal diagnostic imaging unit and the Large animal (including equines and productive animals) diagnostic imaging unit. There is no special staff, veterinarians of each clinic of the VH are involved in the diagnostic work – they got qualified in diagnostic imaging. Each unit has its own diagnostic equipment. The large animal diagnostic imaging unit is equipped with three x-ray facilities (MARK 121 0CW, Sound Technologies; Bucky Diagnost, Philips; SP-HF-VET 4.0, Wiroma), ultrasound machine (MyLab 30 Vet Gold, Esaote), endoscopy facility (Olympus) that is used for gastroscopies, bronchoscopies and arthroscopies, holter monitor (Televet 100, Televet). The small animal diagnostic imaging unit is equipped with x-ray facility (Cosmos BS, Philips), computed tomography facility (MX16, Philips), fluoroscopy/angiography facility (Endura 12, Philips), two ultrasound machines (Affiniti 70, Philips and HD11, Philips), endoscopy facility (Olympus), cardiograph (BTL-08 SD ecg, BTL) and holter monitor (Televet 100, Televet), electroretinography (ERG System, Eickemeyer), a wave eye ultrasound, digital fundusscopy of the eye.

Therapy and intensive care. The VH has facilities, equipment and experienced staff for providing therapy and intensive care services for small animals, equines and productive animals. The main directions of the therapy services are gastroenterology, cardiology, treatment of respiratory system, metabolic and urogenital system diseases, dermatology, ophthalmology, oncology and heard health management.

The Surgery unit of the Small Animal Clinic has three surgery halls and a room for small animal dentistry. The first hall is mainly used for orthopaedics, neurosurgery, laparoscopic and cardiological surgeries. It is equipped with surgical c-arc x-ray equipment (Endura 12, Philips), equipment and instrument sets for endoscopic and arthroscopic surgeries (Aesculap, Karl Storz), pneumatic drill for osteosynthesis and neurosurgery (MPZ-450 MultiDrive system, deSoutter

Medical), video and audio translation system, inhalation anaesthesia machine (Anaesthetic machine, Eickemeyer) with ventilator (Merlin, Vetronic services), infusion pump (Infusomat Space, B.Braun Melsungen), perfusors (Perfusor compact, B.Braun Melsungen), operation monitor with possibility to measure invasive blood pressure (BM5Vet, Bionet), surgery table with heater, surgery lamp (TruLight 5510, Trumpf), ceiling articulated bracket (Uniport, Trumpf) and sets of surgical instruments. The second surgical hall is mainly used for soft tissue and ophthalmologic surgeries; it is equipped with operating microscope for ophthalmology (SOM-2000D, 66 Vision Tech CO), electrosurgical device (ARC 250, Bowa), high performance surgical pump (Master, Ardo), inhalation anaesthesia machines with ventilators, operation monitors (BM3Vet, Bionet), surgery tables, surgery lamps (Trulight 5300, Trumpf and OSRAM-LED, Provita), ceiling articulated brackets and instrument sets, including three microsurgery ophthalmic instrument sets. The third surgical hall is mainly used for student practical training, it has very general equipment – anaesthesia machines, operation monitors, surgical tables, surgical lamps, ceiling articulated brackets, instrument sets etc. The Small animal dentistry room has a dentistry equipment (Pro 2000 Vet Dental Unit, iM3), electrosurgical device (1B, Kentamed), inhalation anaesthesia machine and operation monitor, surgical table and dental instrument sets.

The Surgery unit of Equine clinic has two surgery halls; one of them is used for gastrointestinal (e.g. colic) surgeries, the second is in the process of arrangement and it is meant for orthopaedic, laryngeal and other surgeries. The Surgery unit of the Equine Clinic has equipment and the set of instruments for arthroscopies (Olympus), video and audio translation system, high performance surgical pump, inhalation anaesthesia machine with ventilator and operation monitor (Tafonius, Vetronic), infusion pump (Infusomat Space, B.Braun Melsungen), perusors (Perfusor compact, B.Braun Melsungen), surgery table (Dorsal/Lateral Cylinder Base Equine Table, Shanks), surgery lamps (Truvidia SD 7000 and TruLight 5500/5300, Trumpf), ceiling articulated brackets (KlinoPORT, Trumpf) and sets of surgical instruments.

The Surgery and therapy unit of Productive Animal Clinic has an on-site stationary entire equipment – hoof care chute (HVC12, Zimmermann) and a mobile chute (0729, Berkelmans Welding) for use in farms, mobile surgery lamp (iLED3 Mobila, Trumpf).

The Unit for surgical instrument sterilisation - is located in three rooms of the Small animal clinic. The first room is used for instrument, surgical scrub etc. washing (that is the dirty area). Hand washing, ultrasound instrument washer (Sonorex Super ZE1059, Bandelin) and instrument washing machine (Polaris 2311-HOS, Ken) is used for surgical instrument washing before sterilisation. Laundry washing machine and laundry dryer is used for surgical scrub preparing before packing and sterilisation. Endoscopes are washed and chemically disinfected here as well. The second room is used for clean instrument and scrub packing. Prepared instruments and scrubs are placed in sterilisator (Unisteri HP 636-2, BMT) and sterilised by high temperature and pressure. The third (clean) room is used for storing sterile instruments. There is a self-controlling system used for control of sterilisation process.

The Small Animal Physiotherapy unit is running since September 2015. Two persons are involved in the providing of the physiotherapy service. The Unit is equipped with underwater tredmill (Comfort, Physio-Tech), scales for weight distribution measurement (Rehab 4 Leg Check, Kruuse) and small equipment for providing massage, passive movements, exercise for improving balance, coordination and muscle power for small animals.

6.1.6 SLAUGHTERHOUSE FACILITIES

Describe briefly the slaughterhouse facility to which the Establishment has access, including distances from the Establishment and level of activity.

The VMF does not have its own slaughterhouse therefore supervised training in meat inspection is done in the slaughterhouse outside the VMF (see the Annex II). The distance to the slaughterhouse does not exceed 40 km and transportation with a VMF bus is organized. Other approved slaughterhouses are used for extramural training after the completion of course at the VMF (see Chapters 4, 5, 7 and Annex II as well).

6.1.7 FOODSTUFF PROCESSING UNIT

Describe briefly any access that Establishment has to foodstuff processing units.

During the study course "Food hygiene" students have the practical training at the Food Processing Technology unit (opened in 2016) at the Faculty of Food Technology of the LLU where the small-scale food production unit is equipped. Besides the VMF has collaboration with the regional meat and milk processing plants in Jelgava – up to 5 km distance from the VMF, and fish and canned fish producing plant in Riga (45 km distance; see also the Annex II). Visits to the plants are organized during the Food Hygiene study Course. After completion of the course, students have two-week extramural training with the PVD officials and participate in the official control of food enterprises, including foodstuff processing units.

6.1.8 WASTE MANAGEMENT

Briefly describe the systems and equipment used for disposing of waste material; cadavers, carcasses, biological waste of different types, excreta, etc.

The VMF has unified waste and by-product storing and disposing system. Different types of waste are collected separately in the laboratories in three different labelled containers – as municipal waste; infected waste; biological waste/by-products of animal origin. The employees and the students are instructed about the VMF waste management system. Instructions are also placed in each of the laboratories. The VMF is purchasing services for the disposal of the waste, there is an agreement with the company "Jelgavas komunālie pakalpojumi" – for the disposal of the municipal waste (is leaded out twice a week); with the company "Baltic trade", one of the four companies which has the licence of the PVD for animal by-product transportation and utilization – cadavers, surgically excised body parts, tissue fragments etc.; with the company "Ragn sells" for disposing potentially infected waste (surgical swabs, needles etc.), dangerous waste (chemicals, drugs etc.), expired drugs, drug bottles etc.; with the company "Jelgavas komunālie pakalpojumi" for disposing manure.

Biological waste is cooled or frozen and stored in the refrigerators in the autopsy block (building D) or at the VH mortuary until certain amount of waste is collected and leading is carried out. Usually leading is organised once or twice per month or even more frequently. Potentially infected waste is collected in the special storage room and leaded out once a month. Following the regulations cultures of microorganisms together with media are autoclaved and disposed as infected waste. Manure is stored in a container at the manure storage of the Productive Animal Clinic and twice or three times a week is leaded out (depending on amount of hospitalized animals). Manure of isolated (infectious or potentially infectious) animals are stored in labelled containers and disposed equally as infected waste.

6.1.9 FUTURE CHANGES

Outline any proposal changes in the premises that will have a substantial effect on the Establishment, and indicate the Stage which these have reached.

Since September 2016, the Simulator Laboratory is opened in the Building B, rooms B106 and B108. One room will be used for the simulation of basic surgery manipulations, equipped with aseptic surgeon gowning and scrubbing devices, surgical instrument kits, three surgical tables with suturing simulation on cadavers and artificial suturing simulators, as well as intubation and inhalation simulators. The second room is for the simulation of therapeutically manipulations: intramuscular, intravenous injections, intravenous catheter insertions in horses and dogs, nervous blockades, lacrimal system lavage simulation and nasolacrimal duct flushing in horses; intravenous injections, blood sampling from the vein of the tail of large ruminants etc. Simulators for a heart examination in dogs also are available.

The reconstruction of the Building C is under projection phase. The building C will be adopted for experimental animals including bovines, small ruminants, pigs, dogs, rabbits and others.

There is a plan to build up a horse riding field for lameness examination, horse gait and movement analysing, riding of hospitalised horses, diagnostics and therapy of gastrointestinal and respiratory diseases of horses. The field is already projected.

6.2 COMMENTS

Comment on the adequacy of the buildings in general for undergraduate teaching. Comment on the adequacy of the equipment in general for undergraduate teaching. Comment on the maintenance of buildings and equipment.

The buildings and instrumentation of our departments owing to different financial projects generally are corresponding to the international standards; many aspects are on the highest level. What concerns the maintenance, there will be a need for additional financial support in case of extra repair or replacements.

6.3 SUGGESTIONS

If you are unhappy with any situation, please list any improvements you would make in order of preference.

Despite the large reconstruction and improvement works performed during recent years, there are still some needs – the buildings A, B, C and F have to be renovated, the building C is already under projection of renovation. There is a lack of one extra-large auditorium on site (not less than 200 seats) for bigger events. In relation with the equipment – there is essential need of some examination tools – MRI facility for equines and small animals, electro-encephalography, electromyography and brainstem auditory evoked response equipment for small animals.

Chapter 7 – ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

7.1. FACTUAL INFORMATION

7.1.1 ANATOMY

Indicate the materials that are used in practical anatomical training, and how these are obtained and stored

Students are taught systemic anatomy in the 1st, 2nd and 3rd semester. The best provision for the teaching material is in osteology – there are available bones and skeletons of different animal species (mostly cat, dog, small and large ruminants, horse, pig and poultry) and many of them are prepared by students themselves. Students for self-studies have access also to the exhibits of the Osteology museum of the VMF, having skeletons of all farm animal species of the Baltic region and also of exotic animal (around 147 skeletons, added every year by 1st and 2nd year students). Students can volunteer to prepare an animal skeleton. During systemic anatomy training students have hand-on training by dissecting fresh or cooled organs of different animal species in accordance with the teaching theme and also have a collection of preserved material. Negatoscope is used to visualize x-ray pictures. In the 6th semester, for topographical anatomy training both the cadavers and live animals accommodated in the VH (dog, cat, small and large ruminants, horse, pig) are used.

Table 7.1: Material used in practical anatomical training

Material	dog		ruminant		equine	
	2015	2014	2015	2014	2015	2014
live animals 1)			3	4	4	6
cadavers 1)	25	34	3	1	2	2
specimen 1)			8	7	5	
conserved sample	8	6	27	26	14	14
other						
skeletons	4	4	5	4	3	3
bones	553	570	731	742	806	814
models	2	2	2	2	1	1
radiographic	12	12				3
e.g. ultrasound						
computer assisted teaching						

Material	cat		bird		pig		wild/exotic animals	
	2015	2014	2015	2014	2015	2014	2015	2014
live animals 1)								
cadavers 1)	2	2	6	6				
specimen 1)					2	5		
conserved sample	2	2	3	3	5	5	1	1
other								
skeletons			2	4	4	4	1	3
bones	60	60	125	140	131	132	31	32
models			1	1	1		1	
radiographic	2	2						
e.g. ultrasound								
computer assisted teaching								

The materials are obtained from different slaughter houses, euthanized animals at the VH and after necropsies on condition that the animal carcase does not have any pathological lesions. The material for teaching anatomy of poultry is obtained in poultry factories in Ķekava, Iecava, Līvbērze. The cadavers are preserved in formaldehyde and alcohol solutions and stored in the same liquid for approximately two semesters that allows using them throughout the teaching period. Cadavers and specimens are finally disposed as 1st category by-products of animal origin.

A slide collection of the tissues and organs of healthy euthanized animals of different species as well as biopsy materials are prepared for the use during the study process of Histology (2nd and 3rd semester). Haematoxylin and eosin method is used for the staining of tissue sections (5-15μm).

During the course of Animal Biology commercially produced slides for microscopic examination are used, e.g. unicellular organisms, cross-sections of hydra, round worms and earth-worms, ticks, parts of insects etc. Alcohol-fixed macroscopic material also is used, e.g. worms, molluscs, frogs, lizards etc. For student training purposes live earth-worms and planktonic crustaceans, dead honey bees, fresh fish bought in the shop, collections of insects, and carcases of hens from SIA "Ķekava". Live vertebrates are not used for practical training.

During the course of Physiology different productive and small animals are used – brought to the VH; animals of the VMF kept for teaching purposes (see below in the table); small animals from the Shelter. According to the legislation related to animal ethics and welfare teaching animals of the VMF and the Shelter are used only for non-invasive procedures (basic physiology parameters).

7.1.2 PATHOLOGY

The average number of the necropsies of the animals per study course per 1 student is 9 – sufficient according to requirements.

Table 7.2: Number of necropsies over the past 3 years

Species		Number of necropsies			Average
		2015	2014	2013	
Food-producing animals	Cattle	13	11	9	11
	Small ruminants	38	3	10	17
	Pigs	42	28	77	49
	Other farm animals	13	1	8	7
Equine		5	2	8	5
Poultry		75	26	39	47
Rabbits		34	-	3	19
Companion animals/exotic	Dogs	31	32	68	44
	Cats	36	18	40	31
	Other – poultry, foxes, wolf, guinea pigs etc.	84	63	57	68

Indicate the nature and extent of any additional sources of material for the teaching of necropsies and pathological anatomy, including slaughterhouse material.

Dead or euthanized animals (dogs, cats, horses, cattle, small ruminants, exotic animals) for teaching Pathological Anatomy and doing necropsies are obtained from the VH as well as materials send to the VMF for diagnostic necropsies by veterinary practitioners, animal shelters, pig farm - "Ulbroka", "Pūpoli"; horse breeding farm "Tērvete"; other horse breeding farms; laying hen farm "Baltikovo", chicken farm "Zeltiņi", "Ķekava"; foxes - from hide processing enterprise "Vanagi"; minks – from fur farm „Grobiņa"; other exotic animals – from Riga Zoo. There is a cooperation with police departments, prosecutor`s and court offices all over the country to do special necropsies for forensic veterinary medicine needs (~15-25 animals per year). The animal cadavers are kept in cold room at 4°C, or frozen a t-18°C, all material are finally disposed.

After the necropsy is performed the slides for normal and pathological histology teaching are prepared in the Centre of Comparative Pathology of the Preclinical institute.

7.1.3 ANIMAL PRODUCTION

Indicate the availability of food-producing animals for the practical teaching of students
a) on the site of the institution

There are different species of animals kept in the Stationary of the VMF for teaching purposes. They are used for student practical training in animal production, animal welfare, feeding. 1st and 2nd year students have a duty in the stationary of large animals of the VMF. The autumn (16 weeks) and spring semesters (16 weeks), see Table 7.3 below.

Table 7.2.a: Number of productive animals available for teaching purposes over the past 3 years

Species	2015	2014	2013
Cattle	4	3	5
Calves	1	2	2
Bull	1	-	2
Sheep	4	4	5
Goat	2	3	1
Pig	14	17	4
Horse	2	3	3

b) on other sites to which the institution has access

The farm "Vecauce" is used for teaching and research purposes in cattle production, reproduction and health. It houses around 1100 cattle: 600 dairy cows, 35 meat cows and 450 young stocks on the farm and 40 bee hives. Students attend the farm during several study courses: during the 1st study year one week practice "Practical Agricultural management", for intramural practice during 4th study year, Rotation Praxis - 6th year and farm visits made for different purposes.

The LLU owns also a horse breeding farm "Mušķi" (around 20 horses owned by the LLU) that is used for teaching and research purposes of horse husbandry, in sport trainings and animal health.

Additionally to the animals placed in the facilities under responsibility of the VMF and the LLU, VMF has collaboration with private farms owning different species of productive animals, which are visited according to the study plan (see Annex I).

7.1.4 FOOD HYGIENE/PUBLIC HEALTH

Indicate the availability of farm animals and products of animal origin for the practical teaching of students in veterinary public health, food hygiene, inspection and technology

Students have access to the animals and slaughter products in the slaughterhouses cooperating with the VMF and via the successful collaboration between the VMF and PVD (see also Chs 4,5,6).

For the examination and laboratory testing (both in the laboratory of the VMF and in the food processing unit of the Faculty of Food Technology), the raw material and processed products of animal origin (the meat, milk, fish and the products thereof, the eggs, honey etc.) are obtained from the local producers or purchased in the shops.

7.1.5 CONSULTATIONS AND PATIENT FLOW SERVICES

7.1.5.1 CONSULTATION

State the number of weeks, in the course of the year, during which the clinics are open. State the number of consultation days each week. State the consultation hours.

The Small Animal Clinic is opened through the year. The consultation (appointment) hours are from 9 am to 7 pm every week day; from 9 am to 5 pm on Saturdays, except public holidays. Details see in the Annex III.

The Equine Clinic is opened on weekdays from 9am to 6pm for out-patients with appointments; 1-3 veterinarians are on the duty daily to give consultations accept patients and take care for the in-patients; planned surgeries under general anaesthesia are organized one day a week.

The Productive Animal Clinic provides consultations to farmers and other animal owners every working day from 8am to 5pm. Two part time veterinarians work in the large animal clinic and simultaneously provide the Mobile clinic services together with the students of the Rotation praxis.

The veterinary block of the farm "Vecauce" has its own specialised veterinary block for animal treatment, surgery and hospitalisation. There is working a team with two veterinarians; the leading one is the assistant professor of the VMF. There are around 327 hospitalised animals per year. 4th, 5th and 6th year students have practical trainings there (see Chapters 4, 5 and 6).

7.1.5.2 PATIENT FLOW

The number of animals to be stated are for all disciplines combined (medicine, surgery, reproduction, etc.). In Table 7.4 only animals coming into the Establishment should be included. Animals studied in practical teaching outside the Establishment should be entered in the section entitled "Ambulatory Clinic" (Table 7.5). 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 7.3: Number of cases: a) received for consultation, and b) hospitalised in the Establishment clinics, in the past three years

		Number of patients							
		2013		2014		2015		Average	
		a	b	a	b	a	b	a	b
Farm/large animals	Cattle	974	0	1354	11	380	10	903	14
	Small ruminants	0	0	0	4	0	7		
	Pigs	0	0	0	5	0	4		
	Other farm animals (alpacas)	0	0	0	2	0	0		
Equines		30	16	153	74	205	79	129	56
Poultry		2	0	2	0	0	0	41	2
Rabbits		54	1	30	0	36	5		
Companion animals	Canine	2541	172	3248	249	4379	296	5043	450
	Feline	1402	171	1465	189	1947	270		
	Rodents	13	0	26	0	27	0		
	Exotic animals	31	0	19	0	23	3		
	Cage birds	2	0	4	0	0	0		
	Other pets (primates)	1	0	0	0	0	0		
Wild animals		0	0	0	0	2	0	1	0
Wild birds		5	0	6	0	6	0	6	0

7.1.6 VEHICLES FOR ANIMAL TRANSPORT

State the number and nature of the Establishment vehicles that can be used to bring sick animals to the clinics

In most cases animals are brought to the VH by the owners of the animals. The Equine clinic and Productive Animal Clinic can use off-road vehicle TOYTA HILUX with transport trailer HUMBAUR HP2006 for the transport of large animals, mostly cows, where animal owners cover the transportation expenses, but in some cases expenses are covered by the VMF.

7.1.7 ON-CALL EMERGENCY SERVICE

Outline what emergency service is available (full-time, 24 h service, ON-CALL or 8-22 h duty) and discriminate for species

Emergency service is available full time (24/7) all round the year. Out of normal working hours – on Sundays, on week days after the opening hours, on public holidays and during the night (24/7) in the **Small animal clinic** service is provided by 1 veterinarian on duty and 2-3 students (6^{th} year students during The Rotation Praxis in the autumn semester and 5^{th} year students in the spring semester); in t**he Equine Clinic, the Productive animal (including Mobile clinic) –** on call. Rotation practice students in Equine Clinic are encouraged to stay 24 hours at on duty or outside the clinic for on-call services.

7.1.8 ON FARM TEACHING AND OUTSIDE PATIENT CARE

The VMF has formal and informal co-operation agreements with a number of farms, listed in Annex I and the farm "Vecauce".

7.1.8.1 AMBULATORY (MOBILE) CLINIC

Mobile Clinic provides on-call outside services to farms and other Establishments and is generally operated on a commercial basis. State the number of hours of operation per week. Is emergency service provided 24 h/day, 365 days per year? What is the degree of student participation (include duties)? State the number, the type and the seating capacity of the vehicles used to transport students working in the ambulatory (mobile) clinic. State the approximate number of sick animals (specify cattle, swine, equine, poultry or small ruminants, others) seen by the ambulatory clinic per year during the past three years (Table 7.5). State the average number of visits in a year made by the ambulatory clinic to farms and other Establishments.

The Mobile Clinic provides on-call services to farms and other institutions every working day from 8am to 5pm and accepts emergency calls – 24/7.

Two part time veterinarians work in the Productive Animal Clinic and simultaneously provide the Mobile clinic services together with the 5-6 students of the Clinical praxis and Rotation praxis. If necessary, students are divided in the pairs to provide nightshifts, animal care on site and Mobile outgoings. In case of herd health visits a team of 3 part time teachers, a heard health management consultant, a parasitologist and a gynaecologist are included in the visitation team. They provide hoof trimming, gynaecological and internal medicine examinations, surgeries, heard health services.

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

		Number of patients			
		2013	2014	2015	Average
Farm/large animals	Cattle	1803	329	432	943
	Small ruminants	175	7	0	
	Pigs	81	3	0	
Poultry (no of flocks)		0	0	0	0
Rabbits (no production units)		7	0	0	2
Equines		199	72	0	90
Other	Canine	27	35	0	38
	Feline	29	24	0	

7.1.8.2 OTHER ON FARM SERVICES AND OUTSIDE TEACHING

If there is no on duty Ambulatory (Mobile) clinic, an Establishment may have defined contracts with farms or other Establishments to allow for outside teaching and patient care. Similarly, a Establishment may provide herd-health services. Please indicate if and to what extent this applies to your Establishment. If applicable please provide no. of patients seen on outside teaching.

There are farms the VMF has cooperation with (see Annex I), they are visited during the study courses of Clinical Diagnostics, Internal Medicine, Large Animal Surgery, Obstetrics and

Gynaecology (5th year 10th semester), students have a practical exercise, hands on training, e.g. initial diagnostics of internal diseases, vaccination, blood sampling, undergoing genital, vaginal, rectal, ultrasonography examination, as well as the manipulation in case of a pathological condition of the reproduction organ system (birth giving assistance, retention of placenta, genital trauma, inflammation of endometrium, pathology of ovaries etc.), small surgery procedures, hoof trimming etc. Horse surgery besides the VH is done in the horse breeding farm "Kleisti".

Table 7.4.b: Number of patients seen on outside teaching in the past three years

Species		Number of patients			Average
		Year 2015	Year 2014	Year 2013	
Food producing animals	Cattle	88	98	95	93.6
	Heard health (cattle, sheep, goat)	2100 11 visits	1267 10 visits	1170 6 visits	1512.3 9 visits
	Pigs	38 (swine flue)	1361	851	750
	Poultry (no of Flocks)	1 visit	1 visit	1 visit	1
	Rabbits (no production units)				
Equine		18	18	15	17
Other (Ostrich, alpaca, dogs, cats)		-	33	25	19.3

7.1.9 OTHER INFORMATION

Indicate any notable additional outside sources of material for clinical training purposes, such as animal charities, animals awaiting slaughter, etc.

During the study course Small Animal Internal Diseases, besides the VH patients the animals from the Shelter are used as well. During the study course Small Animal Operative Surgery surgeries for dogs and cats in the VH are done for a reduced price for owners; animals from the Shelter are used to do basic surgical procedures (ovariohysterectomy, castration) under the supervision of a surgeon. During the years 2014 and 2015 in frame of the project "Street cat sterilisation in shelter" 3rd and 4th year student volunteer to do sterilisation in animal shelter "Dzīvnieku draugs".

Indicate how the level of clinical service that is offered by the Establishment (in small companion animals, equines and production animals) compares with outside practices in terms of facilities, hours of service, equipment, expertise, responsiveness, etc.

The VH has the best clinical facilities, equipment and experienced specialists compared to the other practices in Latvia. The main areas of expertise in the Small animal clinic are cardiology, ophthalmology, dermatology, dentistry, soft tissue surgery, orthopaedics, internal medicine and visual diagnostics (see above). The VH has a high quality CT and invasive radiology, an arthroscopy, bronchoscopy and gastroscopy services that concentrated in one place. It has been widely recognised as the top professional institution mainly for all clinical small animal and horse disciplines. The VH has emergency service 24/7 (see above and the annexes). The VH staff is constantly increasing its competencies and experience in cooperation with international exchanges and in specific courses.

Provide an indication in percentage terms of the proportion of cases that are primary (i.e. first opinion), and referrals (provide a breakdown by species, if helpful). If the Establishment has a particular aim or policy as regards this mix, describe it

Taking into account the availability of modern diagnostic and treatment technics and qualified veterinarians working in the VH it has the policy and the results confirm the fact that VH more and more is acting as Reference centre. There is no specific statistics on this matter, but according to the inquiry, which was sent to veterinary practitioners on the use of services of the VH in the year 2016 (see annex X), 53% (89/168) of respondents confirmed that they are sending their patients to the VH for examinations and treatments; 71% (118/167) of respondents consider the VH as a reference centre (see also the text below).

Indicate what areas of clinical specialisation are covered, and the extent of the coverage (for example, a veterinarian with a particular specialisation may see patients in the clinic for one day a week, 3 afternoons, etc.)

The main areas of expertise in the Small Animal Clinic are: cardiology, ophthalmology, dermatology, dentistry, soft tissue surgery, orthopaedics, internal medicine and visual diagnostics (ultrasound, x-ray, CT, bronchoscopy, gastroscopy). The VH has a high quality CT and invasive radiology equipment, arthroscopy, bronchoscopy and gastroscopy services concentrated in one complex - in the VH. The time table see in the Annex III.

Since September 2016, there are increased anaesthesiology qualities by hiring half time a veterinarian – anaesthesiologist and half time ECVA diplomate to supervise the anaesthesiology course and the clinical anaesthesiology block, providing professional protocol based anaesthesiology.

Indicate the relationship the Establishment has with outside practitioners (in small companion animals, equines and production animals) in terms of matters such as referral work, providing diagnostic or advisory services for private practitioners, practitioners participating in teaching, holiday or 'seeing practice' work for students, feedback on the level of clinical training. Describe (if applicable) any other relationships with outside organisations that are routinely used to students with training (in particular practical training) in other clinical subjects (e.g. pathology work, interaction with state veterinary work)

The newly reconstructed VH since opening is a fast growing leader and reference clinic among small animal and horse practices in Latvia, providing a wide spectrum of specialisation and diagnostic, treatment services. There are no many equine disease specialists in the country who are able to provide hospital level circumstances, thus many horse patients are sent to the VH. There are also registered patients from Lithuania, Estonia, Scandinavia and Russia. (see also Chapter 4, 5 and 6).

Provide an outline of the administrative system(s) used for the patients, *e.g.* in terms of how case records are kept, how data are retrieved, whether systems are centralised, etc.

Since 2014 data concerning the patients and their owners are registered in a computer database using the modern clinic software program "Ārsta Birojs" (a programme developed in Latvia). This programme provides proper client and patient registration, clinical filing, collection of diagnostic findings (e.g. blood work, ultrasonography, results of histopathology, etc.) and therapeutic data as well as (x-ray) picture display. Students are allowed to use the software under supervision and also collect data for case reports and diploma thesis.

7.1.10 OTHER SPECIES

Indicate how the Establishment deals with fish and other food producing species.

During practical trainings students acquire practical skills in fish, honey bees and fur-bearing, laboratory and exotic animal's diagnostics and treatment methods. Specific treatment methods are observed for fish (bath, flush, drip, dip, swab, injection) and for other animals. Practical treatment of exotic and laboratory animal internal diseases take place in the VH. There is a practical training in the government fish farm "Tome" (4 hours), and the private apiary (4 hours) and Riga National Zoo (4 hours) where students can observe and try to perform different practical manipulations with fish, exotic animal or honey bees.

7.2. COMMENTS

Feel free to comment on all data provided in this Chapter. Comment on major developments in the clinical services, now and in the near future. Comment on local conditions or circumstances that might influence the ratios in tables 7.5 and 7.6.

The administration of the VMF understands the importance of clinical training of students, the use both in-patients and out-patients services. There are enough small animal and equine patients in the VH, even more – the number of patients in the VH has increased. Have to admit the special facilities for hospitalisation of stray dogs and cats including an examination room, which brings patients for student training as well. This is supported by the city municipality and is not related to the budget of the VH.

The situation with productive animal patients is more difficult. Because of economic reasons productive animal farms mostly use on-call veterinarians and don't want to bring ill animals to treat in the VH. Large animal treatment is not economically reasonable as the price of animals and the price of meat is comparably low. The transportation of farm animals to the VH and back is not advisable also from the epidemiological point of view. In several cases large animals for the practical teaching of students are purchased using the money of the VH, but due to shortage of the VMF finances, the number of purchased animals is limited. At the moment more farm animals are treated by using the Mobile clinic. Owing to the co-operation with the farm "Vecauce", students have the opportunity to do hands-on practice in different veterinary procedures under supervision of experienced veterinarians. Good cooperation with local vets and farmers is established as well.

What concerns pig farms, because of African and Classical swine fever registered in the wild boar population in Latvia, there are very strict biosafety rules in place and students are not allowed to visit pig farms. It is partly compensated by pigs housed for training purposes in the stationary of the VMF.

Also poultry farms have strict biosecurity rules, which restrict student farm visits. Rabbit farming is marginal; and there is not a big number of rabbits in Latvia, so rabbit patients in the VH are very few.

The number of cadavers for necropsies is sufficient and their destruction (incineration) afterwards is also solved accordingly.

All the VMF staff is motivated to work effectively. All veterinarians working in the VH are licensed by the LVB and are members of LVB (www.lvb.lv) and its sections – Small Animal section; Equine section; Large Animal section; as well of variety of international professional associations and specialist societies (WSAVA, FECAWA, BEVA-British Equine Veterinary Association, ESVO, ECVD, etc.).

7.3 SUGGESTIONS

If the values in tables 7.5 and 7.6 for your Establishment are not meeting the range as indicated in Annex IX, what can be done to improve these ratios?

Because of the risks of infectious diseases, there are difficulties to return farm animals back to farms after treatment in the VH, more attention is payed to other possibilities to increase the number of productive animals for the training of students. One direction is to develop further the Mobile clinic services – the VMF is planning to increase heard health visits by organizing a herd health manager group, starting marketing activities for this. The VH is looking for better involvement of the veterinarians serving nearest productive animals. There is still potential for more intensive use of the farm "Vecauce" and its veterinary block.

To increase the number of large animal patients for the training of students, the administration of the VMF is working closely with the Ministry of Agriculture to find any possible mechanisms to support farmers for treating animals in the VH.

Chapter 8 – LIBRARY AND LEARNING RESOURCES

8.1 FACTUAL INFORMATION

8.1.1 LIBRARY AND OTHER INFORMATION TECHNOLOGY SERVICES

Give a general description of the library/libraries of the Establishment/university that are available to students. Indicate how the library/libraries are managed (e.g. library committee).

Students have Access to the Fundamental Library of the LLU and Information Center at the VMF. The FL was founded in 1939. It is accredited official as state level library.

The collection of the FL is the largest and most complete collection of publications on agriculture and the related branches in Latvia – is a significant component part of the National collection of the Latvian libraries. The collection includes 422653 units.

According to the Legal Deposit Law the FL receives a legal deposit copy of each printed publication and each electronic publication on the issues of agriculture, rural rights, rural development and sociology, water management, environmental management, veterinary medicine, forestry, woodworking, food technology, housekeeping and fishery.

Number of users 5395, number of visits 358808, including 231383 virtual visits at the end of 2014.

The Library is headed by a director. The advisory body of the FL is the Library Council. Its aim is

to co-ordinate the work of the Library with the needs of its users. The Library Council consists of deans of all the faculties, the Library director, deputy director and department heads. The Library Council works under the leadership of the vice-rector of studies.

Since 1994 the Library is the Latvian National Centre of AGRIS (International System for Agricultural Science and Technology) of the United Nation's Food and Agriculture Organization (FAO). Since the Library is the National Centre of AGRIS of the FAO, it prepares and sends data about Latvia's research publications on agriculture and related fields to Rome for the organization of the AGRIS database. Thus the works of Latvia's researchers are popularized in the world and become available to any interested person.

Since 1994 the FL is also a participant of the international network of agricultural libraries AGLINET. The activity of the Library in AGLINET is a great advantage for the users. They have the possibility to order article copies nearly from all the libraries of AGLINET. The most active co-operation is with the USA National Agricultural Library, the Danish Veterinary and Agricultural Library, German National Library of Medicine, Finnish National Repository Library, and other libraries.

On March 20, 1998 in the framework of the FL, the Depository Library of the Food and Agriculture Organization of the United Nations was opened. The Depository Library receives books, periodicals and statistics published by FAO.

The FL has the **following databases**: **Electronic Catalogue of the FL** (ALEPH500), which is a part of the State-level libraries catalogue (the bibliographic information database contains documents available in the collection of the FL since 1994 as well as re-catalogued issues; the full text links are added to the digitalized publications of LLU); the **Publications of the Academic and Research Staff of the LLU** (began in 1996; the records contain full text links to Proceedings of the LLU and conference materials since 2005); the **Theses Presented at the LLU**; **Proceedings of Conferences of the LLU; Publications about the LLU;** the **Master degree Theses**; **The LLU Journals and Proceedings online**.

Subscribed E-journals, E-books databases: EBSCO Discovery Service; Britannica Online Academic; CAB Abstracts; CRCnetBASE (e-books); Ebrary (e-books); EBSCOhost; EBSCO eBook Academic Collection; LETA nozare.lv; Letonika; ScienceDirect journals; SCOPUS; Web of Science; Wiley Journals.

Information about the available literature resources (electronic catalogue), as well as access to the databases are available in the Reference and Information Centre, via campus net or off-campus access via university IS user account through *EzProxy*, thus making this information easily accessible from anywhere.

Main library:

Is this specific to the veterinary training establishment?	no
Is this common to two or more establishments?	yes
Full time equivalents of part time employees	9
Number of full-time employees	10
Number of journals received each year as hard copies	10
Numbers of full access electronic journals	84
Availabilities for online literature search	is available 24/7
Availability of textbooks	is available
Number of student-reading places	110
Library opening hours weekdays during term-time	I – IV: 8.30 - 19.00, V: 8.30 - 17.00
Library opening hours weekends during term-time	First Saturday of every month 9.00 - 14.00
Library opening hours weekdays during vacations	8.30 - 17.00
Library opening hours weekends during vacation	–

Library staff members are highly qualified professionals.

Indicate how the facilities are used by students

There is a tendency that more and more students like to use electronic devices for finding and using scientific data.

Please describe the subsidiary (e.g. Departmental) libraries of the Establishment, and arrangements for student access.

VMF Information Centre

There is an Information Centre (library) at the VMF. It is established in the year 2000 and is a structural unit of the VMF. In its funds there are text books, journals, gifts from different foundations,

organizations or individuals, teaching aids published by the VMF academic staff, about 90 titles of books purchased by the PHARE/TEMPUS project and more than 100 newer books bought by the VMF on the request of teaching staff. Total number of text books published during the period from 2000 to 2016 is 458 (some have several copies), all together there are 5737 copies of books. Most of these - 314 are in English, 127 - in Latvian, 12 - in Russian, 3 – in German language.

There are about 300 people regularly using the offers of the Centre from the VMF as well from other faculties, particularly from the Faculty of Agriculture; every day about 20 people visit the facility. Periodics and single newest books are available to students for their use at the site, others can be taken home till the end of the semester. Within the premises of the VMF Information Centre there are PCs at students' and staff's disposal. Internet searching is free of charge. The Centre offers also photocopying facilities, scanners (payment according the price list). There is a suggestion book in the library.

VMF Information Centre:

is this specific to the veterinary training establishment?	yes
is this common to two or more establishments?	no
Full time equivalents of part time employees	1 (2)
Number of full-time employees	-
Number of journals received each year as hard copies	4
Numbers of full access to electronic journals	Via University
Availabilities for online literature search	Via University
Availability of textbooks	are available
Number of student-eading places	15
Library opening hours weekdays	I – V 8.15 – 12.00, 12.45 - 17.00
Saturdays and Sundays, holidays	closed

Indicate whether the main library holds a list of individual books of the subsidiary libraries.

The Electronic Catalogue of the Information Centre of the VMF is created and maintained with the help of the FL and is one of the databases in the Library information system ALEPH.

Other books

Besides the mentioned above, a professional literature of a particular subject is available in each of the VMF institutes. There are books (both belonging to the VH and private ones) in the VH, which may be used by students, when they work in the VH, as well when they prepare case reports.

Describe any other information services and how are they are supported and how student access is regulated

Students have their own University IS account and so they have access to all data basis subscribed by the LLU (http://llufb.llu.lv/db.html?i=db_saraksti.html). Already during the first year students are informed about the possibilities to use the resources of the Library of the LLU and library staff is always ready to help in case of need.

8.2 COMMENTS

Please comment on the adequacy of the books and accessible journals, of the opening hours and of the provision of reading spaces and support personnel.

The FL has a lot to offer; nevertheless the specific veterinary textbooks are more available in the Information Centre, the Institutes and the VH. The Information Centre of the VMF has the biggest resource of Veterinary textbooks in the country and it has veterinary books issued in Latvian. All the books of the VMF Information Centre are included in the common catalogue of the FL. The Information Centre has its own reading room for students. The opening hours mostly are sufficient as in the evenings students work via internet. What is also important to mention is that the FL library is outside the VMF campus and it takes some time to visit it. Furthermore nowadays students more and more like to use electronic means to find literature about the topics they need more information. As students have access to the catalogues and data basis via the LLU information system, even outside the LLU, this possibility is very much used and convenient for students.

Besides it is worth to mention that there is an active work going on to prepare visual and written

materials for students, e.g. protocols for the clinical manipulations etc.

It is important to increase the motivation of students to the available resources of information.

Please comment on the Establishment's provision of IT-facilities and the approach to self-learning, and on the further developments in this area.

The LLU has created a well-functioning IT system for different purposes, which is possible to use in different ways. It allows access to library resources and electronic data basis and e-journals; teachers can put in the system lectures, materials for self-learning, tests etc., students can find information about the studies and give feedback for the evaluation of the teaching process. Both students and teachers are encouraged to increase to use the possibilities. In the territory of the LLU, the VMF and in the hostels there is free Wi-Fi available.

8.3 SUGGESTIONS

It is important to continue to supply the Information Centre with the newest hard copies of the veterinary textbooks and it would earn appreciation to have more hard copies of the veterinary Journals as well, but for that there is a need for more financing. There should be improved the systematisation and localisation of the books in the Information Centre (e.g. according to the study courses) and improved reading room conditions. Together with the FL it would be good to hire more data basis, which contains just the scientific data related to the veterinary medicine.

Chapter 9 – STUDENT ADMISSION AND ENROLMENT

9.1 FACTUAL INFORMATION

9.1.1 UNDERGRADUATE STUDENT NUMBERS

The nominal study period of the Veterinary medicine study programme in the LLU is six years. On successful completion of the programme the students are awarded a diploma that is equivalent to the Master's degree, which gives Access to the Doctoral studies. Table 9.1 describes the numbers of undergraduate students in veterinary training both enrolled for undergraduate training places financed by the state budget and those paying tuition fees.

Table 9.1: Undergraduate student composition in year prior to Visitation (01.10.2015)

	Latvian	English	Total
Total number of undergraduate students	290	7	297
Male students	40	2	42
Female students	250	5	254
Nationals	283	-	283
Foreign students	-	7	7
- from EU countries	-	6	6
- from non-EU countries	-	1	1
1st year students	74	7	81
2nd year students	60	-	60
3rd year students	46	-	46
4th year students	42	-	42
5th year students	30	-	30
6th year students	38	-	38
7th, or subsequent year students	-	-	-
students not in any specific year	-	-	-

9.1.2 STUDENT ADMISSION

State the minimum admission requirements.

The rules for admission of students to higher education institutions of Latvia are stated in the RCM No.846 of 2006; (http://likumi.lv/doc.php?id=146637) and further detailed by the LLU and adopted each year (http://www.llu.lv/getfile.php?id=88277).

According to these rules the general condition giving access to the higher education in Latvia is general or vocational secondary education. For the veterinary medicine studies (professional studies)

in Latvian for state budget financed places may apply Latvian nationals and permanent residents; nationals of EU member states; nationals of the EEA countries; nationals of the Confederation of Switzerland; permanent inhabitants of EU, with valid residential permit in Latvia. Applicants who have graduated from Latvian secondary schools after 2004 are accepted for the competition on the basis of the results of National centralised exams and the average mark has to be not less than 5 in 10 ball system. The content of the National centralised exams and the operational rules are elaborated by the Ministry of Education and accepted by the cabinet of Ministers. Those who graduated before 2004 have to show the valid results of the successfully passed secondary education and exams or the LLU entering exams after finishing a specific preparation course organised by the LLU. Starting from the year 2016 the National Centralised exam in foreign language can be replaced by a passed international test.

From the year 2015/2016 the VMF starts admission of students also for studies in English. There are 7 students admitted - from Germany (2), Finland (2), UK (1) and China (1).

Recognition of foreign educational certification. For those applicants who obtained education abroad recognition of foreign educational certification documents first have to be evaluated by the Latvian Academic Information Centre (www.aic.lv).

Indicate whether there is a limit to the number of students admitted each year.

The number of students admitted each year is limited. It is determined each year by the decision of the University Study Council. Usually there are 50 state budget financed places and up to 30 fee-paying students in the Veterinary medicine study program. The limit for Studies in English is determined up to 15.

Describe how the number of government-funded student places is determined.

Every year the LLU together with the Ministry of Agriculture and the Ministry of Education and Science conclude an agreement on the total number of state financed study places in each study program. The Veterinary Medicine study program has totally 209 state financed study places in Latvian. The figure is based on the results of the discussions between the Ministry of Agriculture, the VMF, LVB, PVD and other stakeholders. According to this the Council of the Faculty establishes the number of state financed places in each year students. It depends on the number of students in each year and their study results.

Outline any selection process (or criteria) used in addition to the minimum admission requirements.

Additional admission requirements are determined by rules accepted in the LLU Senate each year (http://www.llu.lv/getfile.php?id=88277). Applicants for the Veterinary Medicine study program must have passed successfully a secondary education exam: in Latvian (for studies in Latvian) and one of the following foreign languages (English, German, French or Russian); in biology and chemistry. There is a formula how to count competition points on the basis of those results. Maximum number of points is 439; minimal 300 – 310 points to be admitted, from which Latvian language and foreign languages can give each max 100 points, biology and chemistry each max 10 points which are multiplied by the following coefficients – Latvian x 1,05 + foreign languages x 1,04 + biology x 11,5 + chemistry x 11,5.

If the applicant has obtained a secondary education abroad and wishes to study in Latvian, then there is no request for points in a Latvian exam, for the admission the school marks in foreign languages, biology and chemistry are used. For counting total points the following coefficients are used for foreign languages x 20.9 + biology x 11,5 + chemistry x 11,5.

Students are ranked according to the results and admitted on the basis of opened and equal competition for a stated number of study places.

If the applicant wishes to study in English, then it is compulsory to prove English knowledge at least at level B2 (e.g. passed tests TOEFL, IELTS; a corresponding mark in the educational document or having an interview in the LLU) and pass the exam, which includes the questions both from biology and chemistry.

Describe whether students applying for and/or starting veterinary training have an equal or very variable knowledge base in scientific disciplines from their previous studies.

Mostly, the students who have been admitted to study veterinary medicine have good basic knowledge, nevertheless the knowledge in chemistry is variable and in some cases even weak. To minimise this problem the LLU offers to students an introductory course with exams before admitting to Veterinary medicine studies.

The Lifelong learning centre of the LLU does a great job working with applicants. They consult and inform pupils of secondary schools about the study possibilities in the LLU, about the study programs, requirements and possibilities to work after graduation etc.

Describe any circumstances under which extra students may be admitted to the undergraduate veterinary course.

The students who have stopped studies at some stage and have been ex-matriculated or those who wish to study veterinary medicine after having studied in other programs, may continue to study veterinary medicine according to the conclusions of the collation of the already reached results in each study course (content and volume, passed tests, exams) in previous studies in comparison with the requests of the actual study program. Those students first have to pay the study fee, but have rights for so called rotation (see Chapter 5) to get a government financed place in the following semesters in case of corresponding study results.

Outline any changes foreseen in the number of students admitted annually. If applicable, describe how the Establishment plans to adjust to these changes

According to the table 9.2 the number of students admitted each year is slightly variable because of the different number of students who wish to use self-paid studies. There no big changes foreseen in the numbers of admitted students.

Table 9.2: Intake of veterinary students during the period 2010-2015

Year	Number applying for admission	Number admitted		
		'Standard' intake state financed	Self-paid studies	Studies in English
2015	168	50	24	7
2014	171	50	20	-
2013	161	50	24	-
2012	189	50	33	-
2011	204	50	18	-
2010	201	50	24	-

From the table 9.2, we can see that the number of applicants varies a bit between years even if the demographic situation is worth last years (less people of the corresponding age group in the country). There is a plan to accept more students for studies in English, raising the number up to 10-15 students.

9.1.3 STUDENT FLOW

Table 9.3: Student flow and total number of undergraduate veterinary students (summer 2015)

	Number of students present after admitted year 1		Number of additionally admitted students
2009/2010	1st year*	88	2
2010/2011	2nd year	52	2
2011/2012	3rd year	39	2
2012/2013	4th year	35	4
2013/2014	5th year	32	2
2014/2015	6^{th} year	32	3
Number under-graduated veterinary students		32	

*Study year 2009/2010

According to the table 9.3 for the students' admitted in 2009/2010 till on-time graduation the loss was 56 students for different reasons, mostly after the first and second study year, instead other 15 students came back to studies.

For instance the reasons for ex-matriculation during the study year 2014/2015 are the following:

- on his/her own will 58.62% (mostly it is also related to the failing to meet the requirements);
- as failing to start studies, i.e., as a student in the 1st semester who does not start studies until September 30 - 6.89%;
- failing to meet the programme's requirements 3.4%;
- failing to sign an additional agreement on the change of the financial source 3,4%;
- as not returning from academic leave of absence - 24%;
- for a serious violation of the LLU code of conduct - 3.4%.

Table 9.4: Number of students graduating annually over the past five years

Year		Number graduating
2015	N*	44
2014	N-1	31
2013	N-2	34
2012	N-3	31
2011	N-4	23
Average		32.6

According to the table 9.4 during lasts years there are more than 30 graduates each year which corresponds to the calculated needs of new veterinarians for Latvia.

Table 9.5: Average duration of studies (distribution of students in Years)*

	Duration of attendance	Number
2009-2015	-years0 [1)]	32
2008-2015	years 1	9
2007-2015	years 2	3
	years 3	-
	years 4	-
	years 5	-
	Years > 5	-
	Total	44
Average duration of studies of the students who graduated in year 2015		6,34

* year prior to visitation – 2015

1) year matching MNY allocated to the veterinary curriculum

The nominal time for veterinary studies is six years. Most of the students or 73% graduates in 2015 finished in that time; 21% took one year more and 7% took two years more. The average study time of students graduated in 2015, was 6.34 years.

Describe the requirements (in terms of completing subjects and examinations) for progression to a subsequent year of the course.

Students may follow the next part of the studies only in case they have passed all exams/tests requested by the program of the specific study course (see Chapter 4).

Describe the academic circumstances under which the Establishment would oblige students to leave the course.

Ex-matriculation of students from the LLU is regulated by the LLU study regulations approved by the LLU Senate decision No. 8-182 of 10 June 2015, which states that a student, can be ex-matriculated by the Rector's order. A person can stop studies at his/her own will in compliance with the learner's application signed by the dean of the faculty. A student can be ex-matriculated on the basis of dean's or vice-rector's proposal if the student:

1. was unlawfully matriculated, as there were false information given in the application for studies;
2. has not started studies until 30th September of the year;
3. has violated the norms of the Study agreement – does not fulfil the requirements of the study program; does not follow the financial responsibilities; has not signed the amended Study agreement in case of change of the financing of the studies; has not passed the final graduation exams; has not returned from the Sabbatical leave (Academic holiday); because of the end of the exchange program

agreement; because of the serious violations of internal rules (http://eng.llu.lv/getfile.php?id=19749 ; http://eng.llu.lv/getfile.php?id=19745); because of fraud etc. an ex-matriculated person may make appellation application to the special Commission in the Faculty organised by the Dean of the Faculty. Return to studies after ex-matriculation is possible only by paying a fee, except occasions when a person has not started studies at all, and then he/she has to apply in line with the general rules.

9.2. COMMENTS

Comment on standard of the students starting the course.

The level of knowledge of the admitted students happens to be different, especially in such subjects as biology, chemistry and physics. The VMF is considering introducing the motivation test for applicants in the future as the experience shows that a well-motivated student even if he/she had worse marks in the secondary school may be more successful during studies than a student with higher marks in the secondary school, but low motivation.

Comment on the ability of the Establishment to satisfactorily decide the number of students it can accept.

The VMF can influence the decision on the number of self-paid students admitted, but the number of government financed places is decided on the ministerial level, of course with the consultation with the LLU and representatives of the profession.

Comment on the factors that determine the number of students admitted.

It is difficult for the VMF to have stronger admission rules as the level of the financing of the VMF directly depends on the number of the students. The other factor is the financing system as such – if a student cannot study in the state financed place, then it depends if he/she has money available to pay for the studies. In that way some applicants for studies cannot start studies. There is also another factor influencing the quality of admitted students – there is a centralised system for making applications for studies in Latvia; which allows every applicant to make applications to different study programs noting the priority level of each. This means that for the competition better possibilities are for those applicants who have better marks of the secondary education, but sometimes their motivation is not the best. So, sometimes the VMF loses students whose marks of the secondary education are probably not the best, but who have high motivation for study veterinary medicine.

Comment on the adequacy of the facilities and teaching programme to train the existing number of students.

There are sufficient and well equipped facilities especially after recent reconstructions for the training of students. The teaching program is also much developed with the aim to increase practical clinical trainings and studies based on problem solving. There is a need for more money for the adequate maintenance of the facilities and equipment, as well for the engagement of more large animal patients.

Comment on the progress made by students in their studies, and the Establishment's ability to ensure that satisfactory progress is maintained.

Recent years the number of students in the VMF has increased due to less exmatriculated persons, as they become more motivated

Comment on the percentage of students that will eventually graduate.

Unfortunately, one of the reasons that interfere with making good progress is the lack of necessary knowledge in general subjects which had to be obtained in the secondary school, as well as laziness and lack of ability to organise intensive and continuous studies of new subjects. That gives a reason for discharging students from the 1st and 2nd year. Among them there are students who are not sure if they have chosen the right speciality. The number of students is also affected by rather difficult and long studies period (6 years); as well as a rather high tuition fee for self-paid students. It happens that a student who had studied in a government paid place, in case he loses this possibility at some stage due to competition results, leaves the program.

9.3 SUGGESTIONS

If you are not satisfied with the situation, please state in order of importance any suggestions that you may have concerning this Chapter if you feel unhappy about: the number of students admitted; the drop-out percentage and reasons, if known; the average duration of studies; other aspects.

The decrease of the number of drop-outs should be achieved by the following measures:

- to introduce – an additional admission requirement – discussion on the motivation;
- to increase the number of competition points for biology, which also would lead to select persons more motivated;
- to work with the 1st year students more intensively and facilitate to maintain satisfactory progress and motivation of studies;
- to control systematically the students' success level, paying a special attention to failures;
- to improve the conditions of competition for the state paid study place.

Chapter 10 - ACADEMIC AND SUPPORT STAFF

10.1 FACTUAL INFORMATION

The academic staff of the LLU consists of: professors, associate professors, assistant professors (docents), lecturers, assistants. The positions of the research staff members of the LLU are: leading researchers and researchers.

Veterinarians in the VH participate in the teaching and research in accordance with the terms and conditions of their employment contracts and they are employed by the LLU.

Table10.1: Personnel in the establishment provided for veterinary training (01.09.2016)

	Budgeted posts (FTE)		Non-budgeted posts (FTE)		Total (FTE)	
1. Academic staff	VS	NVS	VS	NVS	VS	NVS
Teaching staff VMF(total FTE)	34.18	1.68	0	0	34.18	1.68
Research staff VMF (total FTE)	4.8*	0.3*	2.98**	0	7.78	0.3
Teaching staff of other faculties (FTE)	0	3.78	0	0	0	3.78
Veterinarians in the Hospital (FTE)	2.9	-	9.5***	-	12.4	-
Total FTE	41.88	5.76	12.48	0	54.36	5.76
Total FTE (VS + NVS)	**47.64**		**12.48**		**60.12**	
FTE providing last year teaching	7.3 (4.4+2.9)		9.5		16.8	
2. Support staff						
a) responsible for the care and treatment of animals	1.95		4.4		6.35	
b) responsible for the preparation of practical and clinical teaching.	10.25		1.25		11.5	
c) responsible for administration, general services, maintenance, etc.	10.95		2.7		13.65	
d) engaged in research work	0.52		1.88		2.4	
e) office cleaners, yard-keepers, drivers, electricians, carpenters	11.8		3.0		14.8	
Total support staff	**35.47**		**13.23**		**48.7**	
3. Total staff	**83.11**		**25.71**		**108.82**	

* Each teacher, who is elected as a researcher has 0.3 FTE in scientific work. All researchers of the VMF are involved in the teaching process as well.

** The teaching staff of the VMF who are working in the scientific research projects.

*** Includes also the veterinarians, who work in the VH additionally to the main work as a teacher in the VMF.

The average age of the teachers at the VMF is 42,6 years. The teachers of the VMF teach basic animal science also at other faculties of the LLU: Faculty of Rural Engineers, Faculty of Agriculture

and Faculty of Economics. In turn, teachers from the other faculties (3.78 FTE) of the LLU participate in implementation of the study programme "Veterinary Medicine".

Every year (mostly in the frame of the ERASMUS+ program) the VMF has guest professors from other countries (see Chapter 5).

Information on the allocation of personnel to the various departments/institutes. The technical term 'Departments' refers to the component academic units of the veterinary The titles of the academic staff grades in the table may differ from country to country, and should be modified to suit your particular situation

Table 10.2: Allocation of academic (veterinarian and non-veterinarian) teaching staff – expressed as FTE – and support staff to the various departments

Name of Institute	Academic teaching staff									Support staff (see table 10.1)		
	Full prof.		Associate prof.		Assistant prof.		Lecturer, Assistant		Veterinarians	Technical (b+d+e)	Animal carers (a)	Admin (c)
	VS [1)]	NVS [2)]	VS	NVS	VS	NVS	VS	NVS	VS			
PREK	0.5	-	3.1	1.0	1.98	0.63	6.4	-	-	4.2	-	1.5
KLIN	0.8	-	2.8	-	3	-	6.2	-	-	2.2	1.95	2.25
PVHI	1.2	-	2	-	2.5	-	5.4	-	-	1.75	-	1.4+0.3^
VH	-	-	-	-	-	-	-	-	12.4	5.95	2.4	3.7
Other facultie s	-	1.4	-	0.9	-	0.9	-	0.92	-	-	-	-
Faculty, Dean Office	-	-	-	-	-	-	-	-	-	11.8	-	3.5+1.0*
Total	**2.5**	**1.4**	**7.9**	**1.9**	**7.48**	**1.53**	**18.0**	**0.92**	**12.4**	**25.95**	**4.35**	**13.65**

* Information centre

^ MBZLA Head (Prof. A. Valdovska)

[1)] Veterinarian; [2)] non veterinarian

Outline of how the allocation of staff to the Faculty is determined. Outline how the allocation of staff to the departments (or other units) within the Establishment is determined.

The staff of the VMF is financed both centrally via the LLU from the state budget allocated for the Study program „Veterinary Medicine" and from the fees paid by students **(budgeted posts**); additionally also from income of the VH and the money from different scientific research projects **(non-budgeted posts).**

The number of staff financed by the central budget of the LLU is determined by the LLU. The Senate of the LLU decides on the number of positions for the professors and associate professors depending on the necessity and availability of finances according to the proposal of the Rector.

The number of academic staff and founding for it is determined for each year; it depends on several factors: the CP performed in each Institute; the number of students attending those study courses at a certain study year; the coefficient related to the study courses (the character of the training the size of student groups, e.g. Clinical studies have – 3; other veterinary study courses 2,73); the type of studies (1-4th study year -1; 5-6th study year (master level) – 2; doctoral studies -3). E.g. if an Institute delivers during a study year study courses which constitute 20 CP and the number of students attending those courses is 100, the coefficient of the study course is 3, the type of the studies is -1, then the Institute covers altogether 6000 SCP (student/credit points) during this particular study year. One full time academic staff place is assigned for 720 SCP, not depending on the position of the academic staff. Dividing the number of SCP to 720 Institute gets the number of full staff places – FTE (in this case 8.33 FTE).

The Director of an Institute, knowing the number of FTE of the academic staff assigned to the Institute for the certain year, after consultation with the Dean, decides on the distribution of full and part time existing academic posts among the academic personal. In case any staff member has a higher

qualification and experience than the academic position he could get according to this academic post allocation, the Director of an Institute or the Dean may ask the Pro-rector of Studies of the LLU to give a promotion to this particular academic person for the corresponding study year. Besides this if there is a permanent need for the certain additional academic position in the particular Institute, it is possible to give an application to the special Commission of Academic Personal and Structural Policy chaired by the Pro-rector of Studies of the LLU, who in case of a positive decision announces a new position of the academic staff for election in the certain field of science.

Most of the veterinarians and technical personal working in the VH are paid from the income of the VH.

The principles of the level of the salary of staff members are determined by the Senate of the LLU, but the payment rates may not be lower than the rates determined by the RCM No. 836 of 2009 (http://likumi.lv/doc.php?id=195578).

The opened competition is announced for the vacant positions of the academic staff. (The order of elections of the academic staff is laid down in the "Regulations on the academic staff positions" approved by the Senate No. 8-36 of LLU on 11 December 2013 (http://www.llu.lv/sites/default/files/2016-05/8-36_Nolikums_par_akademiskajiem_amatiem.pdf). For the posts of professors, associate professors, assistant professors (docents), leading researchers may apply the persons who have a Doctor degree in the corresponding field of science and have appropriate results of scientific, pedagogical work, have taken part in certain organisational arrangements.

Academic personal is elected for 6 years; Professors and Associated Professors are elected by the Council of Professors; docents, lecturers, leading researchers and researchers are elected by the Council of the Faculty. At least once during the election period (6 years) every elected person has to attend the course of rising pedagogical qualification for at least 30CP – 160 hours (see Chapter 5).

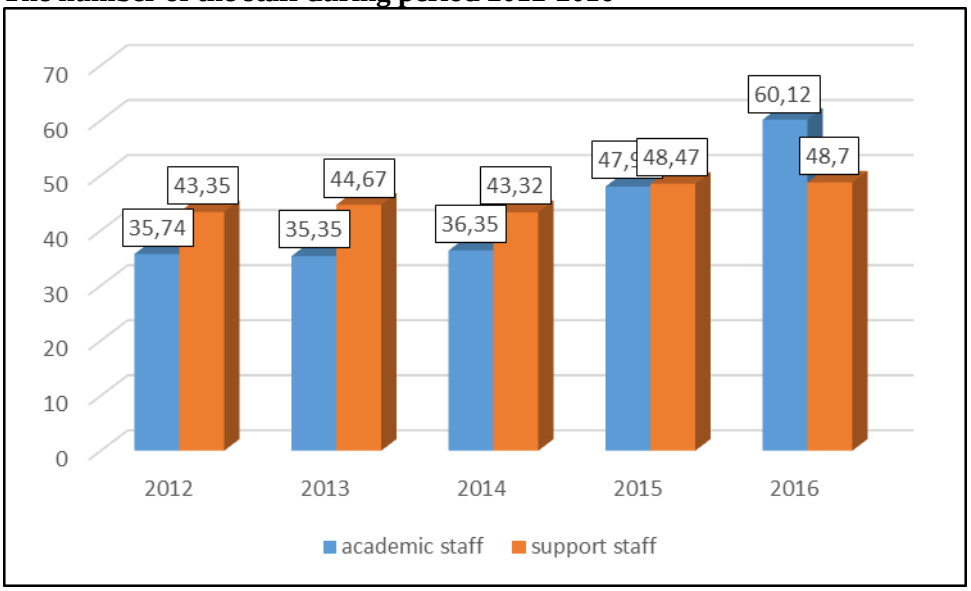
Indicate whether there are difficulties in recruiting or retaining staff.

Because of the low level of salaries it is not easy to find new high quality staff members.

Describe (if appropriate) any relevant trends or changes in staff levels or the ability to fill vacancies over the past decade.

In the year 2004 in the VMF there were only 29.75 FTE academic staff positions. During the years the number of staff FTE positions has increased thanks to the increased number of students and income from the VH (see Figure 10.1).

Figure 10.1: The number of the staff during period 2012-2016



* the figures for the academic staff for the last 2 years include also veterinarians working with students in the VH

Indicate whether it is easy to employ additional staff from service income (e.g. from revenues of clinical or diagnostic work).

The VH is a part of the VMF and it is financed from the income of the VH, administered by the LLU. The distribution and the use of income of the VH are decided by the Director of the VH after consulting the Council of the VH.

The veterinarians and technical staff working in the VH are employed by the LLU and most of them are paid from the profit of the VH. The number of staff places of veterinarians and technical staff of the VH are decided according the needs and financial availability on the proposal of Director of the VH and with the order of the Rector of the LLU.

Most of the academic personal of the Clinical Institute of the VMF additionally to the academic and scientific work in the Institute work also in the VH and are paid according to the number of patients served.

Describe the regulations governing outside work, including consultation and private practice, by staff working at the establishment.

Staff members of the VMF (academic personnel, veterinarians, and supportive personal) may be employed by other employer only with the acceptance of the Rector of the LLU. Several veterinarians working in the VH are part time workers also in the other private clinics.

Academic staff members additionally to the pedagogic and clinical work do research as well in the frame of scientific projects and get corresponding additional payment for that.

Describe the possibilities and financial provisions for the academic staff to attend scientific meetings and go on a sabbatical leave.

Academic staff and veterinarians working in the VH have the possibilities to receive some financing to take part in scientific conferences and other events, e.g. courses considered as instrument for the rise of qualification (see also Chapter 5). For financing the attendance in a scientific conference the funds are used allocated to each Institute for the basic scientific activities or the resource of a scientific project, with the condition, that the staff member has a presentation in the conference and/or full text publication on the corresponding scientific topic. The decision is made by the head of the certain structural unit.

Veterinarians working in the VH every year can apply to attend the specialisation in a particular clinical discipline. The decision is taken by the Director of the VH depending on the Strategy of the VH, financial possibilities, the load of the particular person, attendance fee etc.

The academic personnel has the rights for yearly paid eight week, but after every six years – paid six months academic leave for scientific research or research activities outside the university or for preparation of text books and teaching aids; the academic personnel has the rights to get paid three months study leave for preparation of the Doctor dissertation; professors, associate professors and docents have the rights during one election to ask for an unpaid leave for the time up to 24 months to work as guest professors or guest lecturers in academic posts of other higher educational establishments.

At the moment sabbatical leave is not awarded to the academic staff due to limited financial resources.

10.2 COMMENTS

Comment on the numbers of personnel in the various categories.

The LLU understands the specificity of the veterinary studies and is supportive to create a number of necessary academic and technical staff places taking into account the budget possibilities. However, in several fields of science there is some deficit of high qualified personnel with the scientific degrees and it is difficult to recruit them because of low salary.

Comment on the salary levels, especially those of academic staff in relation to the level of income in the private sector.

Annual changes of the accepted financial load (salary - FTE) of each member of the teaching staff, because of the changes in the number of students, can demotivate teachers. To ensure more effective and balanced development of the academic staff the VMF needs a bigger number of FTEs.

Starting from the year 2007 the budget of the LLU does not allow to increase the salary of the academic staff above the minimum level fixed in the related RCM, resulting in the fact that the salary of assistant professors (docents), lecturers and assistants is not completive to the salaries in the governmental services and private sector. Both – work in the VMF and Doctoral studies often is difficult to combine with the additional work outside the VMF.

Additionally to teaching, academic staff does clinical work in the VH or even in other clinics and so gets salary competitive to the private sector. What is important, the VH has modern diagnostic and treatment possibilities, which in its turn motivate teachers to continue to work in the VMF.

Comment on the ease or difficulty of recruiting and retaining personnel.

The Dean of the VMF and Directors of the Institutes have almost no possibilities to increase the FTE of academic staff of the VMF, because it is depending on the number of the students in the VMF. In the coming years we don't prognosticate the remarkable increase of the number of the students in the VMF both taking into account the number of the state financed places of veterinary students (209) in the VMF and the teaching capacity of the VMF.

Comment on the percentage of veterinarians in the academic staff.

Most of the teachers have the basic qualification as a veterinarian (88% of all teachers involved). All teachers and veterinarians working in the VH have a certificate for the veterinary medical practise.

10.3 SUGGESTIONS

- To increase the role of the Dean and the Directors of the Institutes to create and distribute between sectors the number of the academic personnel.
- To increase the part of the study fees (collected form students of the VMF) left under the responsibility of the Dean and the management of the VMF for the needs of the study program and the salaries.
- Increase the support for the development of the junior academic personnel ensuring more founds for the research and professional development.

Chapter 11 - CONTINUING EDUCATION

11.1 FACTUAL INFORMATION

According to the Latvian legislation (RCM No. 1173) it is defined mandatory for all licensed veterinarians to continue their education and renew their licence every 5 years. The responsible organisation for licensing is the LVB. Totally there are 925 licensed veterinarians in Latvia. To renew a licence the veterinarian has to collect 50 points in five years (1 point – one day seminar) or pass an exam.

The VMF plays a fundamental role in offering a wide range of continuing education events as it is the only academic institution for veterinary medicine in Latvia. The VMF is organising a conference "Animals. Health. Food Hygiene" every two years and it is a leading and most attended conference in veterinary medicine in Latvia; usually organised in a plenary session day and other day with the workshops in small animal, large animal, equine and food hygiene. This is an international conference and most lecturers are foreign specialists from EU and USA.

The VMF academic staff is organising seminars and courses (incl., clinical case reports), for the veterinarians working in the VH, other staff; 6th year's rotation students and all interested vets. In the frame of projects (Swiss) and the ERASMUS program, the VMF invites also foreign lecturers. The attendance is free of charge.

The VMF provides courses, seminars, lectures, workshops also in cooperation with the VIC (www.vic.lv). The VIC is a legal daughter company of the VMF (51% ownership), where 11 capital shares (parts) are held by the VMF, 5 shares – by the LVB and 4 shares – by the Univeritātes Vetfonds Ltd. There are 2 employees at the VIC. These days the VIC is a stable leader in regular providing of the continuing education. During an annual board meeting seminar guidelines and topics for the following year are discussed (Board members: Director of the Clinical Institute, Director of the VH, Chairman of the Board of the LVB, director of the Univeritātes Vetfonds Ltd.). Courses are organized to cover all fields and actualities in veterinary medicine. Lecturers providing seminars and courses are

academic staff from the VMF or invited speakers from EU universities. Information about courses is available in the VIC internet homepage, in the Facebook account; it is sent also to veterinarians in the database of the VIC.

The LVB is an important partner and is responsible for the development of the veterinary profession; it organizes annual veterinary conference (plenary and seminars within subsections).

Seminars in the VMF are organized also in corporation with other organisations (e.g. the PVD; the Universitātes Vetfonds Ltd), partners from industry (e.g. with MSD Animal Health in 2014 and 2015 about "New-born calf management; assessment of the risks of most common diseases and their prevention"; "Calf post-mortem examination and most frequent respiratory pathology"; with the Merial).

The VMF academic staff in cooperation with Latvian Rural Advisory and Teaching Centre and Beef Cattle Breeders Association provides seminars and courses not only for veterinarians but also for farmers and industry staff (lists of seminars and workshops see in the Annex IV).

The VMF is involved in the realisation of the mission of the study and research foundation "Doctors train safe", established by Riga Stradiņš University (the oldest and biggest faculty of Medicine in Latvia) in cooperation with the LLU in June 2013 to offer the opportunities for human doctors to be trained in innovative surgical manipulations on live tissues (experimental pigs). Since then, 23 courses (thromboectomy, thoracoscopy and laparoscopy) for human doctors are held in the VH. There is a plan to provide similar courses also for veterinary surgeons.

11.2 COMMENTS

Comment on the quality of the continuing education programmes in which the Establishment is involved. Comment on the degree of participation of veterinarians in the continuing education programmes in which the Establishment is involved.

The academic staff of the VMF takes an active part into providing continuing education courses for veterinarians both at the facilities of the VMF and outside. We have to admit that the factual organisation of the courses hold at the VMF site is mostly operated by the VIC, but the staff of the VMF is leading the theoretical and practical parts of the courses, following the quality standards, supervising the process. The themes of the courses cover the medicine of different animal species. The location of the VMF in Jelgava is convenient for participants, as it is only 42 km from the capital Rīga with all traffic connections. The number of participants is adequate to the number of vets in the country and capacity of facilities (see Annex IV).

In co-operation with the LVB there are ongoing discussions and plans to develop more systematic post graduate education programmes for veterinary practitioners, whereas in co-operation with the PVD there is a plan to develop programmes of continuing education for veterinarians employed at the state service.

It should be also mentioned that the VMF co-operates with other veterinary schools abroad and uses the possibility to invite foreign veterinary specialists.

11.3 SUGGESTIONS

The continuing education and advanced specialization courses provided by the VMF (in co-operation with the VIC and the LVB) should be organized on a more regular basis, providing more structured programmes announced in advance for all the academic year. Also we have to take into account the fact that the VMF is not the only one provider of veterinary training courses; there are many seminars organized by the Small animal section of the LVB and by the industry.

Chapter 12 – POSTGRADUATE EDUCATION

12.1 FACTUAL INFORMATION

12.1.1 CLINICAL SPECIALTY TRAINING (INTERNS AND RESIDENTS)

At the moment there is no special training for the clinical specialities resulting in a specific Diploma. Instead 6th year students have Rotation Praxis II during which students have to work out Final work and defend it. Besides there are intensive continuing educational activities organised by VIC with the involvement of the academic personal of the VMF (see Chapters 2, 5 and 11).

12.1.2 RESEARCH EDUCATION PROGRAMMES

In the VMF there are two types of research educational programmes: the PhD program "Veterinary Medicine" (classification code in the Latvia educational system 51640) and a part time Professional master study program "Food hygiene" (classification code in Latvia educational system 47640). Both are nationally accredited till 2019. Entering rules are updated every year (http://www.llu.lv/sites/default/files/2016-06/Uznemsanas_noteikumi_2016_2017%5BDoktora_studijas%5D.pdf).

12.1.2.1 DOCTORAL STUDY PROGRAM "VETERINARY MEDICINE"

- Conducted according to the rules and criteria for the conferment (doctorate) of the PhD degree" (RCM No. 1001 of 2005 http://likumi.lv/doc.php?id=124787; LLU Doctoral study rules (adopted by the Senate of LLU No. 8-201 of 11th November 2015 (http://www.llu.lv/sites/default/files/2016-05/Doktora_studiju_nolikums.pdf) and based on the Recommendations of The Latvian Council of Science (http://www.lzp.gov.lv/index.php?option=com_frontpage&Itemid=43); corresponds to the International Standard Classification of Education (ISCED) and the doctoral level of the Classification of Education used in the Republic of Latvia. Doctor study students are admitted by order of the Rector of the LLU, the order is based on the decision of the Council of Science of the LLU. During the same procedure a scientific supervisor is approved.

Full time Doctor studies are 3 years, part time 4 years. The content of studies is the same for both options. Totally Doctor studies include 120 credits, theoretical part (20 credits), research (100 credits). The curriculum includes a basic study module, a speciality module, elective subjects and the preparation of the thesis (Annex VI).

Studies are conducted according to the individual study plan, which has to be prepared by doctoral student together with his supervisor during the first 2 month of the studies according to the LLU doctorial study program. First, the individual plan is discussed at the meeting of the academic personal of an Institute in presence of a representative of Doctoral Council for the Veterinary Medicine. After, it is approved by the Director of the Doctoral study program of Veterinary medicine sciences. At the beginning of each academic year the plan of each doctoral student is reviewed. At the end of each study year the progress of the student is assessed in the Faculty Council meeting.

During the **first doctoral study year** the doctoral student has to pass professional foreign language and the course of research methodology; has to study available literature in the scope of the research topic, elaborate the concept and methodology of the experiment; and prepare needed materials and if possible, start some primary experiments.

During the **second doctorial study year** the doctoral student has to pass a professional exam in the field of research; has to continue experiment(s) for obtaining the data, start to analyse the data and prepare publications on the basis of research results; make a presentation of the data in the international scientific conference; has to present the results of the research in international scientific conference of the doctorates of the LLU "Research for Rural Development". Proceedings of the conference are indexed in the SCOPUS database.

During the **third doctoral study year** the doctoral student has to pass research direction special course; finalise experimental research; work on obtained data; has to make a presentation at least in one international scientific conference; has to prepare the draft of the Doctoral thesis. All together there should be at least 1 publication in indexed in the SCOPUS data basis.

The doctoral thesis first is discussed in the meeting of the academic personal of the corresponding Institute. In case of a positive opinion the thesis is sent to a special Commission organised by the Council of Ministers of Latvia – State Commission for the scientific qualifications (http://likumi.lv/doc.php?id=103609) for the evaluation of the general scientific qualification of the work; after positive opinion of this Commission, thesis is sent to the Doctoral Council of LLU for Veterinary medicine for defence. The Doctoral Council for Veterinary medicine is organised by the order of the Rector of the LLU after recommendations of the Scientific Council of the LLU. It includes experts accepted for 3 year term by The Latvian Council of Science. The defence of a doctoral thesis is organised as a public discussion.

The Doctoral Council of LLU for Veterinary medicine is conferring the scientific degree: Doctor of Veterinary medicine (Dr.med.vet.).

12.1.2.3 PROFESSIONAL MASTER STUDY PROGRAM "FOOD HYGIENE"

Standard of Master studies of the LLU (decision of the LLU Senate No. 8-178 of 10 June 2015); Study rules accepted by the Senate of the LLU (Decision No. 7-28 of 9 June 2010). The aim of the program is to give theoretical knowledge and practical skills for the planning, implementation and control of the production of safe food and to be able to conduct science based investigations in the food hygiene area and to make decisions based on the results obtained for the introduction of new and safe food production technologies. Graduates are fit for the work in the food industry and governmental authorities, have good understanding of food hygiene and food safety in the whole food chain, able to elaborate and operate food safety management systems.

Requirements for the admission of students for the Professional Master Study Program "Food hygiene" are the following – Bachelor degree or second level higher professional education in veterinary medicine, medicine, food technology, agriculture, biology or chemistry, which is obtained in study programs, which full time studies of not less than 4 years (160 KP).

There are only part time (1.5 years) academic education studies for obtaining Master degree – 50 credits (75 ECTS) (Annex V):

- Compulsory theoretical part (part A), 24 credits (36 ECTS) – basic science subjects;
- Professional praxis (part B), 6 KP (9 ECTS) – related to the topic of the final graduation work.

The Master thesis first is discussed in the meeting of the academic staff of the Institute of Food and Environment Hygiene of the VMF. In case of a positive opinion the thesis has to be defended in front of the State Test Commission created by the annual order of the Rector of the LLU, including 50% of academic staff and 50% experts from the professional field. In a positive case the student gets the degree – Master of Food Hygiene (Mg.cib.hyg.).

The numbers of postgraduate students in the Doctoral and Professional Master study programs are given in Table 12.1. and 12.2.

Table 12.1: Number of research students enrolled in different programmes (1st October 2015)

Type of degree	Full time	Part time	Duration
Doctoral study program "Veterinary medicine"	27	-	1-6 years
Professional Master study program "Food hygiene"	-	13	1.5 year

Table 12.2: Number of Doctoral and Professional Master students during last 4 years

Type	2012/ 2013	2013/ 2014	2014/ 2015	2015/ 2016
All doctoral students	16	19	22	27
Newly matriculated in the first year studies	4	3	7	7
Graduates	6	1	1	
Defended doctoral thesis	3	4	2	-
All master students	7	-	15	13
Newly matriculated in the first year studies	-	9	6	7
Defended master thesis and graduates	7	-	6	7

Please indicate when and where and whether the students require a grant or salary.

Research is carried out in the frame of scientific research projects conducted by the academic staff of the VMF or in cooperation with other institutions and enterprises (see Chapter 13).

All full-time Doctoral students have a possibility to get a scholarship (113.83 EUR per month for studies with a possibility to have additional scholarship for working on a thesis – 85.37 EUR per months; totally 199.20 EUR per month); part-time students are self-funded. This possibility is given in accordance with the RCM No. 740 of 2004 (http://likumi.lv/doc.php?id=93004). There is also a possibility to require a state guaranteed study loan (RCM No. 219 of 2001 (http://likumi.lv//ta/id/25576?&search=on)). To use these possibilities the student has to conclude an agreement with the LLU.

Besides, the LLU can decide on a single grant for the participation in the scientific conference with a presentation.

12.2 COMMENTS

Comment on the number of postgraduate diplomas/titles awarded annually.

According to the Research program of the LLU Strategy there are three main directions of scientific research performed by the academic staff of the VMF together with Doctoral students:

- Morpho-functional research of the digestive apparatus of animals in the aspect of ontogenesis and disease pathogenesis;
- Research of new diagnostics, treatment methods, medication and food additives;
- Control and prevention of infection and infestation diseases.

Often there is a need for more time (1-2 years) to defend Doctoral works after a graduation of the Doctoral studies. Master students mostly manage to conclude the studies and defend the final work in time.

Most of the graduates of doctoral studies are continuing to work in the VMF, giving resource for renewal of the academic staff. The rest of the graduates are working mostly in the PVD and in the Institute for Food Safety, Animal Health and Environment BIOR.

Comment on the percentage of veterinarians participating in postgraduate research training programmes.

All veterinary Doctoral students are veterinarians and supervisors of their work are veterinarians as well with a Doctor degree. There are some veterinarians also in the Master study program "Food hygiene".

12.3 SUGESTIONS

- The doctoral study time is too short for the Veterinary medicine research – there should be at least 4 years for full time students to prepare and defend doctoral thesis.
- In certain scientific areas of Veterinary medicine there are no scientists with high enough qualification to supervise/consult doctoral students; therefor there is need for better cooperation on the international level and a need for adequate financing.
- The financing of doctoral studies has to be increased to be competitive. Doctoral student scholarships have to reach at least the level of minimal salary in the country.
- Doctoral and Master study advisers/supervisors also have to have some financial remuneration.
- Continue preparations for the veterinary medicine speciality trainings.
- To ensure sustainability of Master study programme "Food Hygiene" the budget places are needed.

Chapter 13 – RESEARCH

The details requested under this heading relate only to research experience offered to students during their undergraduate training, for example through project work.

13.1 FACTUAL INFORMATION

Indicate the involvement of undergraduate students in research, including the time spent, percentage of students involved and outcome required.

Involvement of undergraduate students in scientific work is voluntary and is a traditional part of the study process. Students are encouraged to take part in the research projects already from the first years of the studies. It is organised in three ways (see the fields of student research 2005-2016 and the Final thesis of the Rotation praxis in the Annex VIII).

First option, if students have specific research interest, they discuss the research topic together with responsible teacher/researcher and prepare a **certain research project**.

Second option – interested students are regularly involved in academic staff research projects. There are several sources of financing the projects – Ministry of Education and Science via the Latvian Council of Science (division Agriculture and Forestry sciences); Ministry of Agriculture; EU financed projects (FP7, Horizon 2020); Public-private projects and Agreements with business companies. Academic staff take part in such projects both in the case if the project is managed by the

LLU or the VMF and in the frame of projects managed by other scientific institutions (e.g. Institute of Food Safety, Animal Health and Environment BIOR).

Every year about 26 – 28 students are involved in the student scientific work, i.e. 11.4% of the total number of undergraduate students. Part of them take part in the scientific conferences and publish their works. There is an annual undergraduate and master degree student scientific conference "Students on their way to the science" organised by the LLU every year (normally in April). The conference is held in English and opened to students from other countries as well. Students from Lithuania and Estonia are regular guests. The works are evaluated by the Commission consisting of representatives of the LVB, representatives of the VMF institutes; others (according table of evaluating). The best projects/presentations are awarded. The main award is given by the LVB for one presentation of 1st to 5th year student (diploma, 150 EUR for the future scientific activities). The winner has a possibility to publish an article in the Journal of the LVB. Traditionally all 1st and 2nd year students doing presentations in the conference receive facilitation presents (professional books) from the Dean of the VMF. Usually there are awards – professional books are given for the best works which are gradated 1st – 4th place by some veterinary medicine wholesaler companies. A special award is made for 1st and 2nd year students to encourage participating in the research.

The LLU provides possibilities to publish abstracts of the students scientific conferences. Recent years abstracts are published both in the internet „SWS Abstract book" (ISSN - 2255-9566) and in the form of CD. Every participant of the conference receives a certificate and CD.

Table 13.1: Number of students taking part in the Student scientific Conferences in Jelgava

Year	Total number of VMF students on 01.04.	Number of VMF students taking part in the conferences	% from the total number of students	Number of publications from VMF students	Total number of publications in the conference materials
2016.	285	17	5,96	13	16
2015.	289	8	2,77	7	12
2014.	275	10	3,64	7	12
2013.	283	7	2,47	6	15
2012.	264	16	6,10	14	23

Several students each year are taking part in the similar conferences in other schools. E.g. each year about 3-4 students take part with presentations and publications in the analogue Conference in Lithuanian Veterinary Academy.

The third possibility for 6th year students is to do a research project during the Rotation praxis. At the end of the Rotation praxis students have to present a Final work and they may choose the type of it between clinical case report or scientific report. Thesis of the Rotation praxis is presented and defended during two day's session (see Chapters 4 and 5).

LLU has prepared a Development Strategy Document for years the 2015-2020 which includes the Research Program (http://www.llu.lv/getfile.php?id=96056).

13.2 COMMENTS

Comment on the opportunities for students to participate in active research work

The students who are actively involved in research obtain the methodology of scientific investigation enabling them to prepare course papers of higher quality, they learn to work with scientific literature analysing data critically. Participation in the scientific conferences stimulates students to improve their skills to present their reports in public and express their opinion logically. Being involved in the scientific activities helps students to choose easier the field of post graduate activities and for some to decide to continue with doctoral studies, becoming the new candidates for the positons of the academic staff.

The Final work of the Rotation praxis allows students to apply the acquired knowledge in formulating scientific problems, planning and executing relevant research studies. For that students have to show that they are able to find and analyse scientific information, carry out a research study, synthesize new specific knowledge on the basis of their own study and collected scientific data and present the results.

13.3 SUGGESTIONS

Will students be given more opportunity to participate in research activities? If so, how will this be done?

As one of the limitation factors for the involvement of students in the scientific work is a fact that there is no financing for student scientific activities, it would be important to receive a certain amount of financing at least for the material and laboratory test expenses.

1/09/2016

Asoc. prof. Ilmārs Dūrītis
Dean of the VMF

ANNEXES

- Annex I (Chapters 4, 5, 6 and 7) – The farms cooperating with the VMF in the teaching process
- Annex II (Chapters 4, 5, 6 and 7) – The slaughterhouses and food production enterprises cooperating with the VMF in the teaching process
- Annex III (Chapter 6) – The services provided and time table by the VH
- Annex IV (Chapter 11) – Courses organised by the VMF during recent years (2014 – 2015); Courses organised at the VMF by the VIC (2014 – 2015); Courses organised in cooperation with the PVD (2014 – 2015)
- Annex V (Chapter 12) – Master study programme "Food Hygiene"
- Annex VI (Chapter 12) – Doctoral study programme "Veterinary Medicine"
- Annex VII (Chapters 4,7,9,10) – Ratios
- Annex VIII (Chapter 13) – Student research work
- Annex IX (Chapter 12,13) Publications of the academic staff of the VMF during the years 2012-2015
- Annex X (Chapter 5) - The results of the inquiry of the veterinary practitioners (LVB Annual Veterinary Conference, March, 2016)
- Annex XI (Chapter 5) - The results of the inquiry of the veterinary students of the first year (autumn, 2015)

ANNEX I

The farms cooperating with the VMF in the teaching process

Animal species	Farms	Number of animals	Distance in km
cattle	Farm “Agro Daile”	400	19
	Farm “Mežacīruļi”	300	19
	Farm “Rudeņi”	300	35
sheep	Farm “Mikaitas”	800-1300	134
	Farm “Mežkalēji”	150	125
goats	Līcīši	120	7.2
horses	Breeding farm “Princis”	70	8
	The Sport centre of the Latvian Equestrian Federation “Kleisti”	200	52
Pig	Farm “Pūpoli”	8500	60
Chicken	Farm “Ķekava”	700 000 - 1 million	41
Laying hens	“Baltic OVO” Ltd	1 million	35
Fur animals	“Baltic Devon Mink”	15 000 – 20 000	53
Fish - variable species: salmonids, pike, pike perch, vimba etc.	Farm “Tome” - with different rearing systems- RAF, flow-through, ponds	Several ponds	67
Bees	Farm “Medus pils”	Several hives	Brocēni 81

ANNEX II

The slaughterhouses and food production enterprises cooperating with the VMF in the teaching process

Name of the enterprise	Kind of products	Distance from Faculty	Activities
A Slaughterhouses			
SIA „Gaļas pārstrādes uzņēmums Nākotne”	Pig and cattle slaughter	22 km	Slaughter of cattle and pigs, cutting plant, meat product processing plant. Ante-mortem and post-mortem inspection, hands-on training, sampling, hygiene, HACCP, discussion with teachers and personnel. Slaughter capacity 300 pigs per day, and 40 cattle per week.
SIA “Irvaine:	Pig and cattle slaughter	33 km	Slaughter of cattle and pigs. Ante-mortem and post-mortem inspection, hands-on training, sampling, hygiene, HACCP. Slaughter capacity 150 pigs per day, 40 cattle per week.
A/S “PF Ķekava”	Poultry slaughterhouse	41 km	Slaughter of broilers. Ante-mortem and post-mortem inspection, hands-on training, sampling, laboratory of slaughterhouse, hygiene, HACCP, discussion with teachers and personnel. Slaughter capacity 6000 broilers per hour.
Food producing enterprises			
Rīgas miesnieks AS "HKScan Latvia"	Meat and meat products	5 km	Production of meat products, specific specialization on producing different kind of sausages. ISO 9001:2000. EC approved. Technology, hygiene, sampling, HACCP
Latvijas Piens	Milk and milk products	3 km	Production of milk products, specific specialization area producing of cheese and dried milk product, export of milk products. EC approved. Technology, hygiene, sampling, HACCP
SIA “Karavela”	Fish processing	57 km	Production of fish products, specific specialization area is producing of canned fish products and preserves, export of fish products. EC approved. Technology, hygiene, sampling, HACCP

ANNEX III

The services provided by the VH and time table

Small animals	
Emergency, emergency surgery	24h, all year
Internal Medicine, anaesthesiology	Monday – Saturday 9:00-19:00
General surgery, anaesthesiology	Monday – Saturday 9:00-19:00
Orthopaedic surgery	Monday – Saturday 9:00-17:00
Oncology	Monday – Saturday 9:00-17:00
Dermatology	Monday – Saturday 9:00-17:00
Ophthalmology	Tuesday, Thursday 9:00-17:00 (appointment) (variable, emergency Monday – Friday 9:00-19:00)
Cardiology	Friday 10:00-19:00 (variable, emergency Monday – Friday 9:00-19:00)
Radiology	Monday – Saturday 9:00-19:00 until necessary
CT	Monday – Saturday 9:00-19:00 until necessary
Imagine: USG, endoscopy, bronchoscopy	USG Monday – Saturday 9:00-17:00 Endoscopy, bronchoscopy - Tuesday, Wednesday, Friday 9:00-17:00
Equines	
Therapy, Surgery	Monday – Saturday 9:00-18:00 on an appointment and emergency acceptable on call Horse surgery on an appointment
Productive animals	
Therapy, Surgery	On service only deal with cases passed on an appointment, internist on call

ANNEX IV

Courses organised by the VMF during recent years (2014 - 2015)

Date	Title of the course	Number of participants	Total number of hours of the course
2014			
November 27-28	International scientific conference: Animals Health. Food hygiene.	550	8h plenary day; 8h each section
December 9 -10	Opioids and NSAIDs in veterinary medicine	30	5
May 19	Interpretation paradigm for the companion animal thorax. Serial thoracic CT in 10 dogs with Leptospirosis Thoracic imaging rounds	43	8
May 20	The acute abdomen (includes Intro to iodinated contrast medium and abdomen imaging rounds)		
May 21	Computed tomography: Lessons imparted by daily practice		2
May 22	Imaging of the spine		
May 23	Osteohondrosis (OCD/chip fracture) and arthroscopy. Tendinitis, desminitis, tendinosckopy. Sedation and general anaesthesia in horses. Epidural anaesthesia		8
2015			
April 13	Small animal anaesthesiology (workshop)	5	4.5
April 13	Small animal anaesthesiology (lecture)	5	3.5
September 1	Perioperative pain treatment	10	3
September 11	Dermatology, atopia	15	3
September 31	EKG, Electrocardiogram	20	2
November 28	Dermatology conditions	15	2

Courses organised at the VMF by the VIC (2014-2015)

Date	Title of the course	Number of participants	Total number of hours of the course
2014			
January 24	Small animal oncology	78	10
January 25	Small animal oncology workshop	30	7
February 14	Laboratory diagnostics in small animal practise – options, news, practical experience	65	7.5
March 7	Small animal ophthalmology	43	5.5

March 11	Horse, farm animal ophthalmology	21	5.5
June 9	Principles of small animal diagnostics and treatment (lecture+ workshop)	43	7
September 19	Diseases, treatment and prevention of caw foot diseases (lectures +workshop)	36	8
October 11	Main infection and parasitic diseases and control in lambs	45	7
October 18	How to prepare sheep herd visit (workshop)	12	5.5
December 07	Necropsy in small animals	23	6
December 12	Dirophylaria in small animal practise (lecture+workshop)	23	5
December 16	Responsible and professional action in slaughtering and death cases in productive animals	68	6
2015			
February 20	Work and environment improvement in animal shelters	38	4
March 6	Bacteriological diagnostics of cattle mastitis in a private practice	53	6
April 10	Lamb death post mortal examination (workshop)	60	5.5
April 15	Small animal anaesthesiology	26	5
May 22 -23	Small animal dermatology	130	15
August, 14	Small animal oncology	40	7
September 29	Requirements of veterinary drug distribution	26	4
October 24	Small animal stomatology (lectures+ workshop)		8
November 27	Exotic animal medicine		5
December 11	Bovine feeding and metabolic diseases		5

Courses organised in cooperation with the PVD

Date	Title of the course	Number of participants	Total number of hours of the course
03.01.2014.	Requirements of veterinary practices, registration and cancelling of registration. Classical swine fever and African swine fewer distribution in Russia and situation in Latvia.	40	4
28.02.2014.	Monitoring of animal infectious diseases in year the 2014. African swine fever situation in EU.	40	4
30.06.2014.	Veterinary hygiene requirements of unprocessed milk safety. Authorization agreement	35	4
08.08.2014.	African swine fever and Classical swine fever distribution in Latvia and contingency plan. Wild boar meat hygiene and safety. Restriction of animal movement. Chain of non-edible by-products.	40	4
05.01.2015.	African swine fever distribution in Latvia, human factor, diagnostics, epidemiology. Pet animal passport requirements regarding EC regulation 577/2013.	42	4
27.02.2015.	State plan of animal infectious diseases in the year 2014 and 2015. Changes in Agriculture Data Centre (LDC)	40	4
05.06.2015.	State plan of animal infectious diseases in year the	41	4

	2015.African swine fever and actualities in field of veterinary inspection.		
03.07.2015.	Animal culling procedures, Legislation. Animals fit to be transported.	40	4

ANNEX V

Master study programme "Food Hygiene"

N.p.k.	Study subject	CP (ECTS)	1. course		2. course
			1. sem.	2. sem.	3. sem.
			CP/type of the control		
	A - Obligatory subjects	**24 (36)**			
1	Pedagogy and psychology	2 (3)	Tm		
2	Food toxicology	2 (3)	Tm		
3	Food technology	2 (3)	Tm		
4	Food infections	2 (3)	Tm		
5	Food marketing	2 (3)	Tm		
6	Food quality systems	2 (3)	T		
7	Food additives	2 (3)	T		
8	Genetically modified food	2 (3)			T
9	Food self-life	2 (3)			E
10	Food hygiene and infections	3 (4.5)		Tm	
11	Methodology of research	3 (4.5)			Tm
	B - Obligatory subjects-Practice	**6 (9)**			
12	Food safety	6 (9)		Tm	
	Elaboration and presentation of master thesis	**20 (30)**			
13	Master paper I	10 (15)		T	
14	Master paper II	10 (15)			T
	Total:	**50 (75)**	14 (21)	19 (28)	17(26)

T-test, Tm – test with mark, E – exam

ANNEX VI

Doctoral study programme „Veterinary Medicine"

Study course	**CP**
Theoretical courses = 20CP	
Particular branch of science (+exam)	6
Direction of the research (+exam)	6
Foreign language (+exam)	4
Research methodology	4
Research activities = 100CP	
Research	53
Presentation of the research results in a scientific conferences	7
Publication of the research results	15
Preparation of the Doctoral Thesis	25
Total	120

ANNEX VII

Ratios

1	No. undergraduate veterinary students		284.2	Denominator 4.727	Maximum value: 8.381
	No. total academic FTE in veterinary training		60.12		
2	no. undergraduate students at Faculty		284.2	2.612	Maximum value: 9.377
	no. of total FTE at Faculty		108.82		
3	no. undergraduate veterinary students		284.2	5.228	Maximum value: 11.057
	no. total VS FTE in veterinary training		54.36		
4	no. students graduating annually		32.6	0.599	Maximum value: 2.070
	no. total VS FTE in veterinary training		54.36		
5	no. total FTE academic staff in veterinary training		48.7	0,810	Recommended range: 0.505 – 1.907
	no. total FTE support staff in veterinary training		60.12		
6	Supervised practical training (D+E+F)		3132	0.550	Minimum value: 0.602
	Theoretical training (A+B+C)		5690		
7	Laboratory and desk based work + non-Clinical work (F)		1806	1.36	Maximum value: 1.809
	clinical animal work (D+E)		1326		
8	Teaching load (A+B+C+D+E+F+G)		8898	2.16	Recommended range: 2.59-46.60
	Self – directed learning (C)		4119		
9	Total no. hours vet. Curriculum		8898	32.95	Recommended range: 8.86-31.77
	Total no. curriculum hours Food Hygiene/ Public Health		270		
10	Hours obligatory extramural work in Veterinary inspection		160	0.593	Recommended range: 0,074-0.556
	Total no. curriculum hours Food hygiene/ Public Health		270		
11	no. of food producing animals seen at the faculty		903	27.699	Minimum value: 0.758
	no. of students graduating annually		32.6		
12	no. of individual food-animal consultations outside the faculty		943	28.926	Minimum value: 8.325
	no. of students graduating annually		32.6		
13	no. of herd health visits		9	0.276	Minimum value: 0.326
	no. of students graduating annually		32.6		

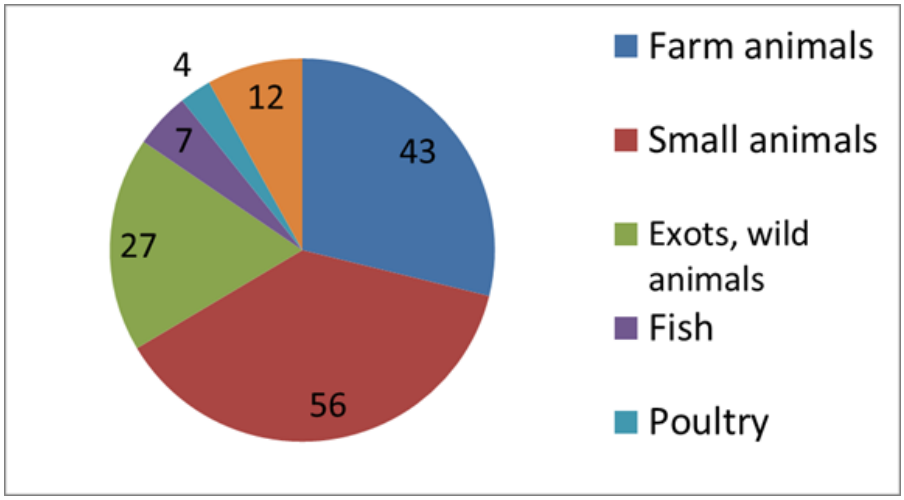
14	no. of equine cases		219	6.718	Minimum value: 2.700
	no. of students graduating annually		32.6		
15	no. of poultry/rabbit cases		41	1.258	Minimum value: 0.407
	no. of students graduating annually		32.6		
16	no. of companion animals seen at Faculty		5043	154.693	Minimum value: 48.061
	no of students graduating annually		32.6		
17	poultry (flocks)/rabbit (production units) seen		1	0.031	Minimum value: 0.035
	no. of students graduating annually		32.6		
18	no. necropsies food producing animals + equines		89	2.73	Minimum value: 1.036
	no. of students graduating annually		32.6		
19	no. poultry/rabbits necropsies		66	2.02	Minimum value: 0.601
	no. of students graduating annually		32.6		
20	Necropsies companion animals		143	4.38	Minimum value: 1.589
	no. of students graduating annually		32.6		

ANNEX VIII

Student research work. Final thesis of the Rotation praxis.

Year	Nr. students	Practical work		Scientific work		Other
		Small animals	Large animals	Small animals	Large animals	
2015	44	17	5	7	8	7
2014	32	7	2	6	9	8
2013	35	9	4	8	5	9
2012	31	3	11	4	6	7
2011	23	4	3	5	5	6

Fields of student research 2005-2016



ANNEX IX

Publications of the academic staff of the VMF during the years 2012-2015

(Only articles published in journals which are indexed in Scopus or Web of Science date basis)

2012

1. Berzina, I., Capligina, V., Bormane, A., Pavulina, A., Baumanis, V., Ranka, R.,Granta, R., Matise, I. (2012). Association between Anaplasma phagocytophilum seroprevalence in dogs and distribution of Ixodes ricinus and Ixodes persulcatus ticks in Latvia. Ticks and Tick-borne diseases, 4 (1-2), pp. 83-88.
2. Jemeļjanovs, A., Zītare, I., Konošonoka, I.H., Krastiņa, V., Proškina, L., Jansons, I., Strazdiņa, V. (2012). Evaluation of meat used for human consumption in Latvia. Proceedings of the Latvian Academy of Sciences. Section B, Natural, Exact, and Applied Sciences, Vol.66, No.3 pp. 87-95. ISSN 1407-009X
3. Konosonoka, I.H., Jemeljanovs, A., Osmane, B., Ikauniece, D., Gulbe G. (2012). Incidence of Listeria spp. in Dairy Cows Feed and Raw Milk in Latvia. ISRN Veterinary Science, vol. Article ID 435187, 5 pages, 2012. doi:10.5402/2012/435187. http://www.isrn.com/journals/vs/2012/435187/
4. Liepina, S., Jemeljanovs A. (2012). Detection of pathogenic Escherichia coli strains pollution in red deer meat in Latvia and determination the compatibility of VT1, VT2, eaeA genes in their isolate. World Academy of Science, Engineering and Technology, Vol.65, May 2012, Amsterdam, The Netherlands. pp. 340-343. ISSN 2010-376X; eISSN 2010-3778 http://www.waset.org/journals/waset/v65/v65-67.pdf
5. Liepina, S., Jemeljanovs, A. (2012). Detection of pathogenic Escherichia coli strains pollution in red deer meat in Latvia and determination the compatibility of VT1, VT2, eaeA genes in their isolate. International Journal of Medical and Biological Sciences, Vol.6, pp. 279-282. http://www.waset.org/journals/ijmbs/v6.php
6. Medne, R., Balode, M. (2012). Hematological analyses of some fish species in the gulf of Riga. Oceanology, 2012, Volume 52, Issue 6, December 2012, Pages 797-802.
7. Šuba, J., Petersons, G., Rydell, J. (2012). Fly-and-forage strategy in the bat Pipistrellus nathusii during autumn migration. Acta Chiropterologica, 14 (2), pp. 379-385.
8. Voigt, C.C., Sörgel, K., Šuba, J., Keišs, O., Petersons, G. (2012). The insectivorous bat Pipistrellus nathusii uses a mixed-fuel strategy to power autumn migration. Proceedings of the Royal Society B: Biological Sciences, 279 (1743), pp. 3772 - 3778.

2013

1. Berzina I, Capligina V, Cirule D, Matise I. (2013). Autochthonous canine babesiosis caused by Babesia canis canis in Latvia. Vet. Parasitol 196 (3-4):515-518.
2. Bruveris, Z., Antane, V.,, Misane, I., Rimeicans, J., Lusis, I, Auzans, A., Mangale, M., Mednis, A., Stonans, I. (2013). Effects of Meldonium on Sexual Performance, Semen Quality, Testes Morphology and Blood Biochemical Markers in Boars. J.Animal Reproduction Science, 136 pp. 303-309.
3. Duritis I., Mugurevics A., Mancevica L. (2013) Distribution and characterization of the goblet cells in the ostrich small intestine during the pre- and posthatch period. Veterinarija ir Zootechnika. - Vol. 63 (85).
4. Duritis, I., Mugurevics, A., Manceviva, L. (2013). The Distribution of Gastrin, Somatostatin and Glucagon Immunoreactive (IR) Cells in Ostrich Stomach During the Pre- and Post-hatching Period. Journal of Veterinary Medicine Series C: Anatomia Histologia Embryologia. 42(5). pp. 362-368.
5. I.Berzina, I.Matise (2013) Seroprevalence against Borrelia burgdorferi sensu lato and occurrence of antibody co-expression with other tick – borne diseases in dogs in Latvia. Irish Veterinary Journal, Ir Vet J 66 (1): 9
6. Inese Zitare, Mara Pilmane, Aleksandrs Jemeljanovs (2013) Histomorphology of the digestive system of red deer (Cervus elaphus L.) in Latvia // Journal of Veterinary Medicine and Animal Health. – Vol.5(4) (2013), pp.99-106.

7. Kovalcuka, L., Birgele, E., Bandere, D., Williams D.L. (2013). The effects of ketamine hydrochloride and diazepam on the intraocular pressure and pupil diameter of the dog,s eye. Veterinary Ophthalmology, Nr. 16(1), pp. 29-34. DOI:10.1111/j.1463-5224.2012.01015.

8. Kovaļenko, K., Roasto, M., Liepiņš, E., Mäesaar, M., Hörman, A. (2013). High occurrence of Campylobacter spp. in Latvian broiler chicken production. Food Control, 29 (1), pp. 188–191.

9. Sharkey LC, Radin MJ, Heller L, Rogers LK, Tobias A, Matise I, Wang Q, Apple FS, McCune SA. (2013) Differential cardiotoxicity in response to chronic doxorubicin treatment in male spontaneous hypertension-heart failure (SHHF), spontaneously hypertensive (SHR), and Wistar Kyoto (WKY) rats. Toxicol. Appl. Pharmacol. 273(1):47-52

10. Terentjeva M., Bērziņš A. (2013). Prevalence of Yersinia enterocolitica 4/O:3 in raw pork at retail market in Latvia. Archiv für Lebensmittelhygiene. Vol. 64 (5), p.136-140.

2014

1. Capligina, V., I. Salmane, O. Keišs, K. Vilks, K. Japina, V. Baumanis, R. Ranka (2014) Prevalence of tick-borne pathogens in ticks collected from migratory birds in Latvia. Ticks and tick-borne diseases, 5 (1): 75–81.

2. Fourcade, Y., O. Keišs, D. S. Richardson, J. Secondi (2014) Continental-scale patterns of pathogen prevalence: a case study on the Corncrake. Evolutionary Applications 7 (9): 1043–1055. Article first published online: 3 SEP 2014; DOI: 10.1111/eva.12192

3. Hussar P., Jarveots T., Rotmistrova A., Karner M., Dūrītis I., Mugurēvičs A. (2014) „Immunohistochemical localization of glucose transporters in ostriches gastrointestinal tract" Wulfenia journal, Vol. 21/12, pp.174-180 (Thomson Reuters, WoS)

4. Kovalcuka L, Birgele E, Bandere D, Williams DL. Comparison of the effects of topical and systemic atropine sulfate on intraocular pressure and pupil diameter in the normal canine eye. Veterinary Ophthalmolgy. 2014 Jan 16. doi: 10.1111/vop.12138. [Epub ahead of print]. Impact faktor 1.087.

5. Kovaļenko K., Roasto M., Šantare S., Bērziņš A., Hörman A. (2014) Campylobacter species and their antimicrobial resistance in Latvian broiler chicken production, Food Control, Vol 46, pp. 86-90. (SNIP: 1,661)

6. Krüger, F., Clare, E.L., Symondson, W.O.C., Keišs O. & Petersons, G. (2014) Diet of the insectivorous bat Pipistrellus nathusii during autumn migration and summer residence. Molecular Ecology, 23: 3672–3683.Article first published online: 28 NOV 2013; DOI: 10.1111/mec.1254

7. Liepa L., Bruveris Z., Mangale M., Duritis I., Antane V., Auzans A. (2014) „The biopsy of the boar testes using ultrasonographic examination" apstiprināts publicēšanai "Macedonian Veterinary Review" 2014; (37)

8. Mäesaar M., Praakle K., Meremäe K., Kramarenko T., Sõgel J., Viltrop A., Muutra K., Kovalenko K., Matt D., Hörman A., Hänninen M-L., Roasto M. (2014). Prevalence and counts of Campylobacter spp. in poultry meat at retail level in Estonia. Food Control, Vol 44, pp. 72-77. (SNIP: 1,661)

9. Rehbein S., Capari B., Duscher G., Keidāne D., Kirkova Z., Petkevičius S., Rapti D., Wagner A., Wagner T., Chester S T., Rosentel J., Tielemans E., Visser M., Winter R., Kley K., Knaus M. (2014). Efficacy against nematode and cestode infections and safety of a novel topical fipronil, (S)-methoprene, eprinomectin and praziquantel combination producēt in domestic cats under field conditions in Europe. Veterinary parasitology. /ISSN 0304-4017/ Volume 202, issues 1-2 28 April, 10-17 pp. (SNIP 1,396)

10. Rydell .J, Bach L., Bach P., Diaz L.G., Furmankiewicz J., Hagner-Wahlsten N., Kyheroinen E.-M., Lilley T., Masing M., Meyer M.M., Pētersons G., Šuba J., Vasko V., Vintulis V., Hedenstrom A. (2014) Phenology of migratory bat activity across the Baltic Sea and the south-eastern North Sea. Acta Chiropterologica, 16(1): 139–147.

11. T. Van der Meij, A.J. Van Strien, K.A. Haysom, J. Dekker, J. Russ, K. Biala, Z. Bihari, E. Jansen, S. Langton, A. Kurali, H. Limpens, A. Meschede, G. Petersons, P. Presetnik, J. Prüger, G. Reiter, L. Rodrigues, W. Schorcht, M. Uhrin, V. Vintulis (2014) Return of the bats? A prototype indicator of trends in European bat populations in underground hibernacula. Mammalian Biology, DOI: http://dx.doi.org/10.1016/j.mambio.2014.09.004

12. Valdovska A., Jemeljanovs A., Pilmane M., Zitare I., Konosonoka I.H., Lazdins M. (2014) Alternative for improving gut microbiota: use of Jerusalem artichoke and probiotics in diet of weaned piglets. Polish Journal of Veterinary Science. (PJVS) Vol. 17, No. 1, 61–69. (SNIP 0,551)

13. Valieva Z., Sarsembaeva N., Valdovska A., Ussenbayev A.E. (2014) Impact of echinococcosis to quality of sheep meat in the South Eastern Kazakhstan. Asian-Australasian Journal of Veterinary Science (Asian-Australas J Anim Sci), Vol. 27, No. 3: 391-397, (SNIP 0,755)

14. Vintulis, V. and G. Pētersons (2014) Root cellars are important winter roosts for brown long-eared bats (Plecotus auritus) and northern bats (Eptesicus nilssonii) in Latvia. Mammalia, 78(1): 85–91.

2015

1. Dūrītis I., A. Mugurevics (2015) Distribution and characterisation of goblet cells in the large intestine of ostriches during the pre- and post-hatch period / I. Duritis, // Anatomia, Histologia, Embryologia. (2015), [Epub ahead of print] , URL: http://dx.doi.org/10.1111/ahe.12221, URl: http://www.scopus.com/inward/record.url?eid=2-s2.0-84951310598&partnerID=40&md5=50905f5278d29036ab7824e0025b0532

2. Gulbe G., Valdovska A., Saulite V., Jermolajevs J. (2015) In Vitro Assessment for Antimicrobial Activity of Lactobacillus Helveticus and its Natural Glycopeptides against Mastitis Causing Pathogens in Dairy Cattle. The Open Biotechnology Journal, 9, (Suppl 1-M5), 1-5. SCOPUS Paper

3. Eizenberga I., Terentjeva M., Valciņa O., Novoslavskij A., Ošmjana J., Strazdiņa V., Bērziņš A. 2015. Evaluation of microbiological quality of freshwater fish in Usma lake. Acta Biologica Universitatis Daugavpiliensis Vol.15, No.1, p.65.-73.

3. Terentjeva M., Eizenberga I., Valciņa O., Novoslavskij A., Strazdiņa V., Bērziņš A. 2015. Prevalence of foodborne pathogens in freshwater fish in Latvia. Journal of Food Protection. Vol.78(11), p.2093-2098.

4. Petrová J., Terentjeva M., Puchalski C., Hutková J., Kántor A., Mellen M., Čuboň J., Haščík P., Kluz P., Kordiaka R., Kunová S. Kačániová M. 2015. Application of lavender and rosemary essential oils improvement of the microbiological quality of chicken quarters. Potravinarstvo. Vol. 9, No 1, p. 530-537.

6. Konosonoka I.H., Osmane B., Cerina S., Krastina V., Vitina I.I., Valdovska A. (2015) Feeding technology impact on broiler productivity and intestinal tract microflora. Engineering for rural development, 126-132. SCOPUS Paper

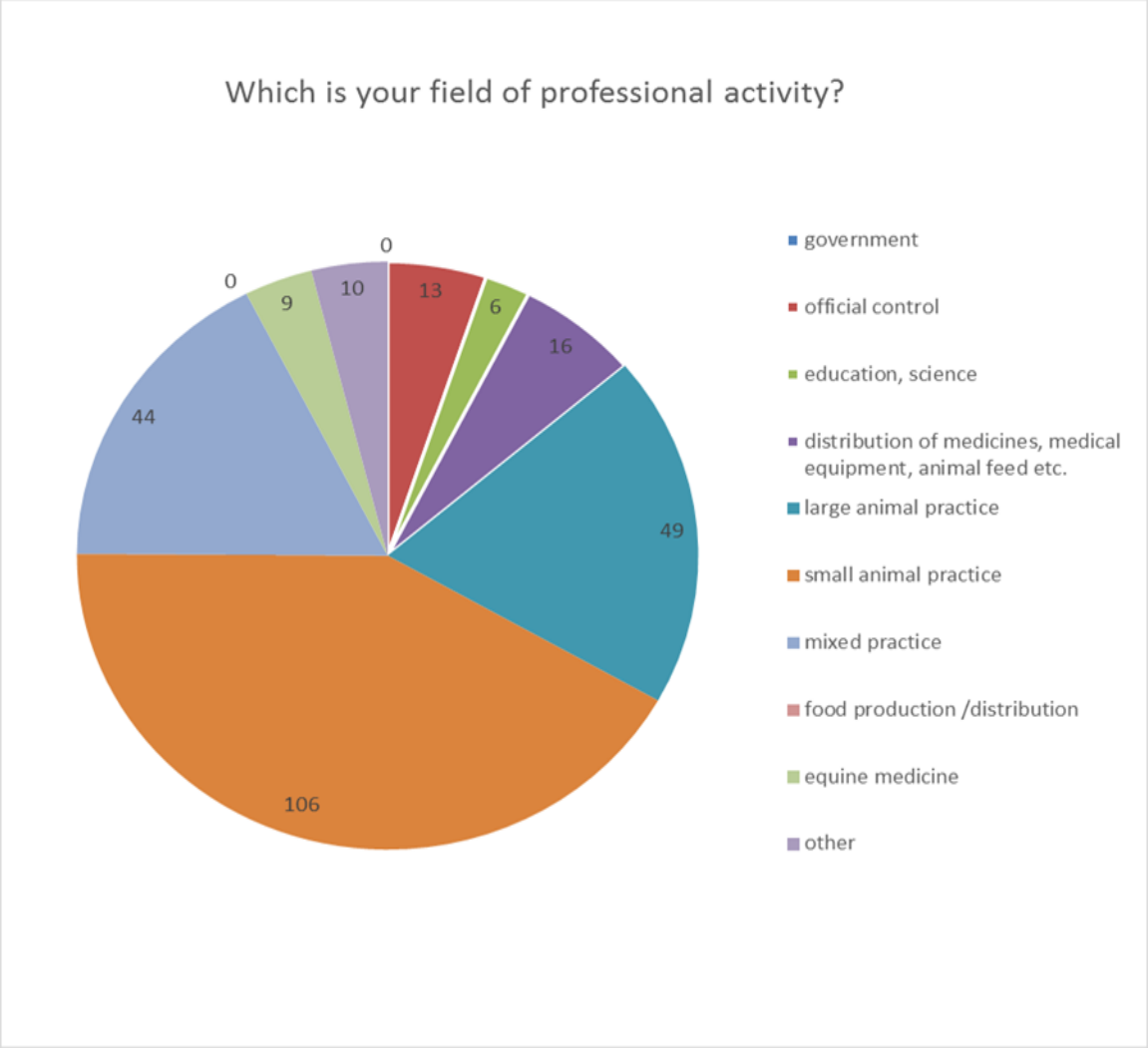
7. Novoslavskij A., Terentjeva M., Eizenberga I., Valciņa O., Bartkevičs V., Bērziņš A. (2015). Major foodborne pathogens in fish and fish products: a review. Annals of Microbiology, p.1-15. 10.1007/s13213-015-1102-5

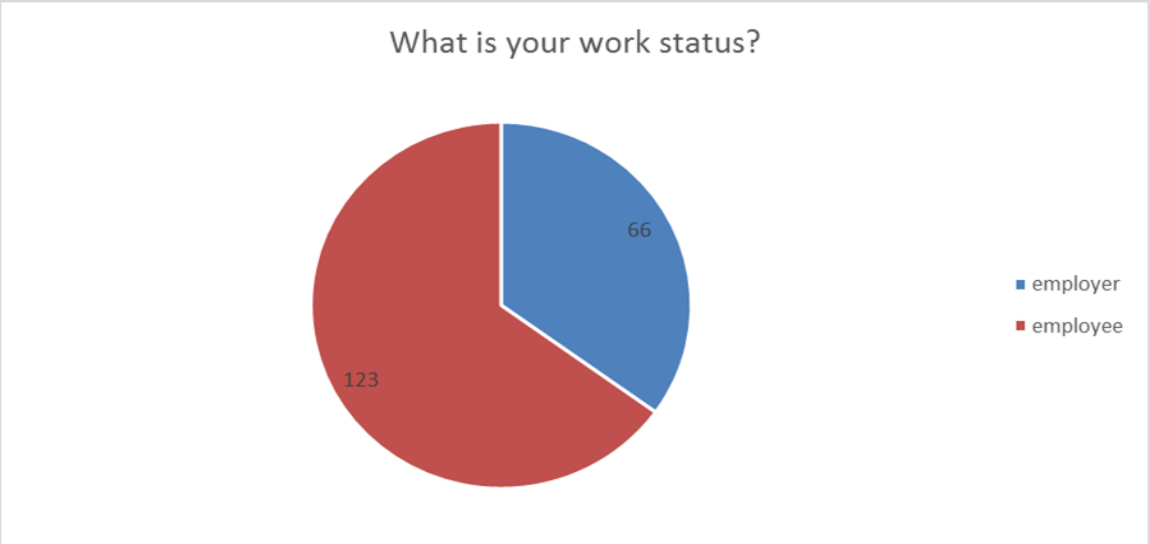
8. Van der Meij T., A.J. Van Strien, K.A. Haysom, J. Dekker, J. Russ, K. Biala, Z. Bihari, E. Jansen, S. Langton, A. Kurali, H. Limpens, A. Meschede, G. Petersons, P. Presetnik, J. Prüger, G. Reiter, L. Rodrigues, W. Schorcht, M. Uhrin, V. Vintulis (2015) Return of the bats? A prototype indicator of trends in European bat populations in underground hibernacula. Mammalian Biology, 80, 170-177. (IF 2014=1,48).

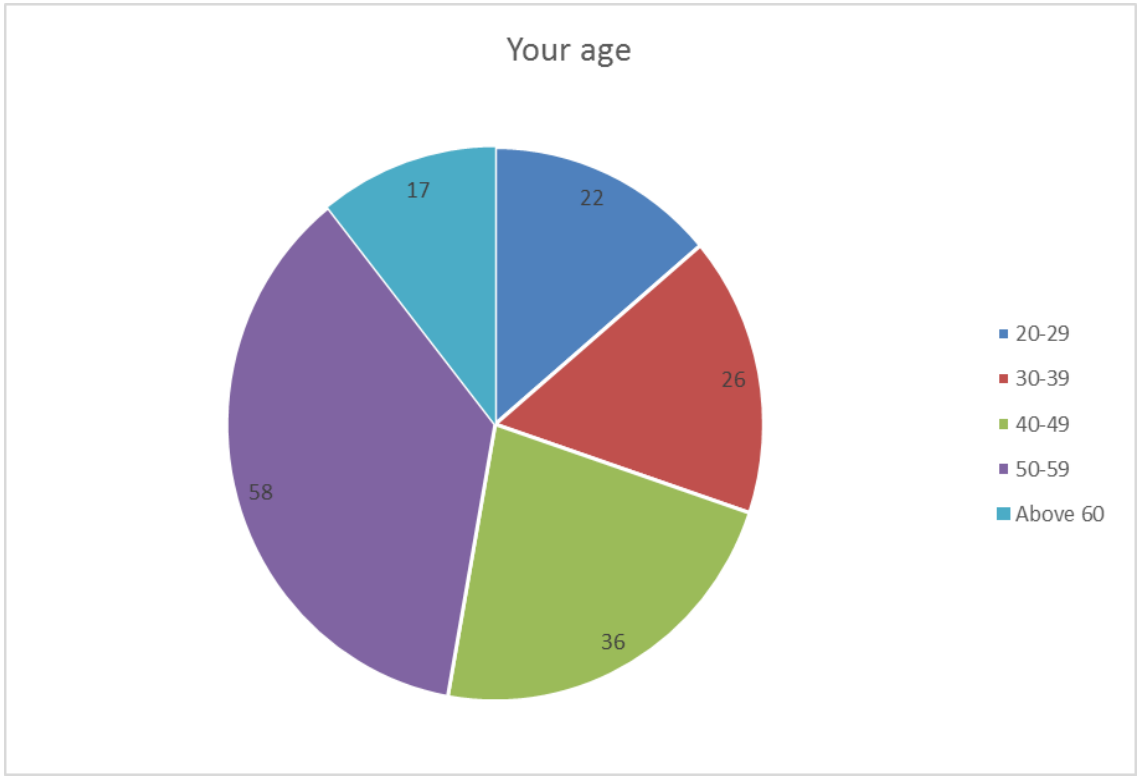
9. Voigt, C.C., Lehnert L. S., Petersons, G., Adorf, F., Bach, L. (2015) Wildlife and renewable energy: German politics crossmigratory bats. Eur J Wildl Res., 61, 2, 213-219 (IF 2014=1,63).

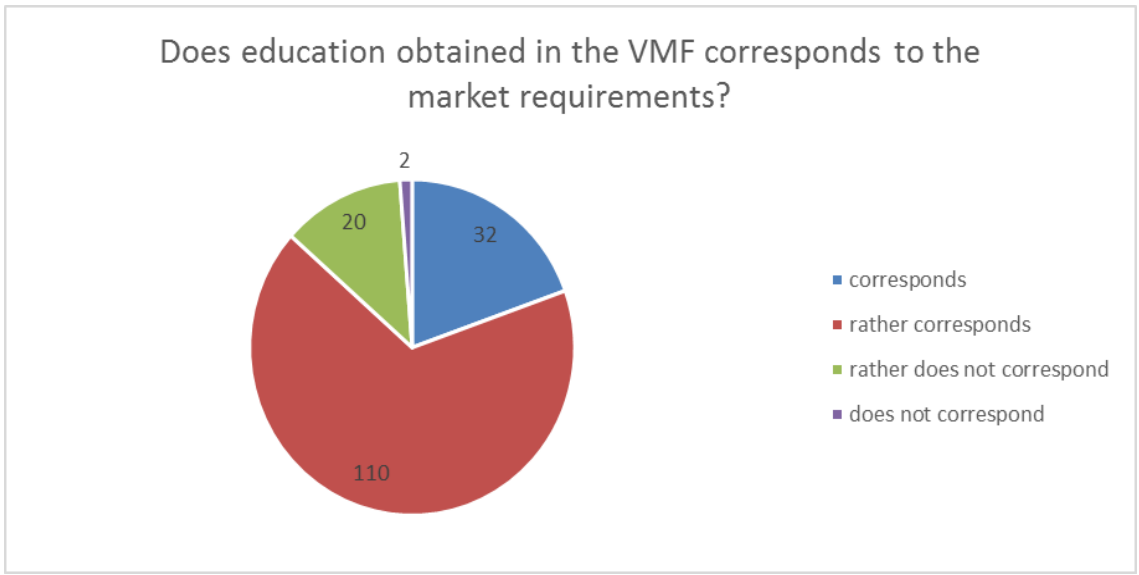
ANNEX X

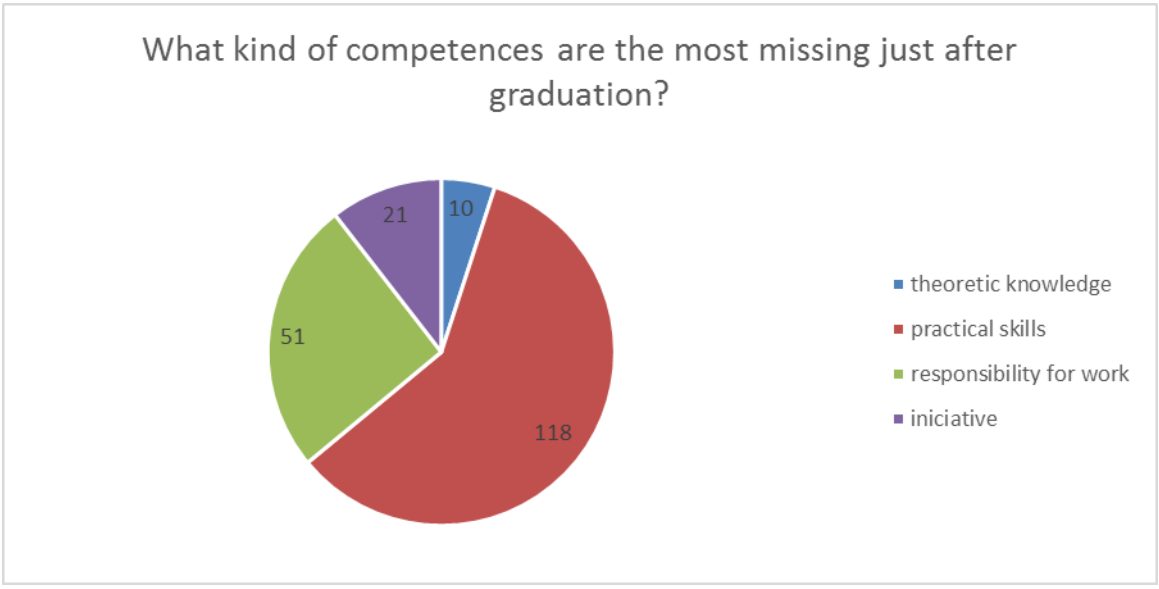
The results of the inquiry of the veterinary practitioners (LVB Annual Veterinary Conference, March, 2016)

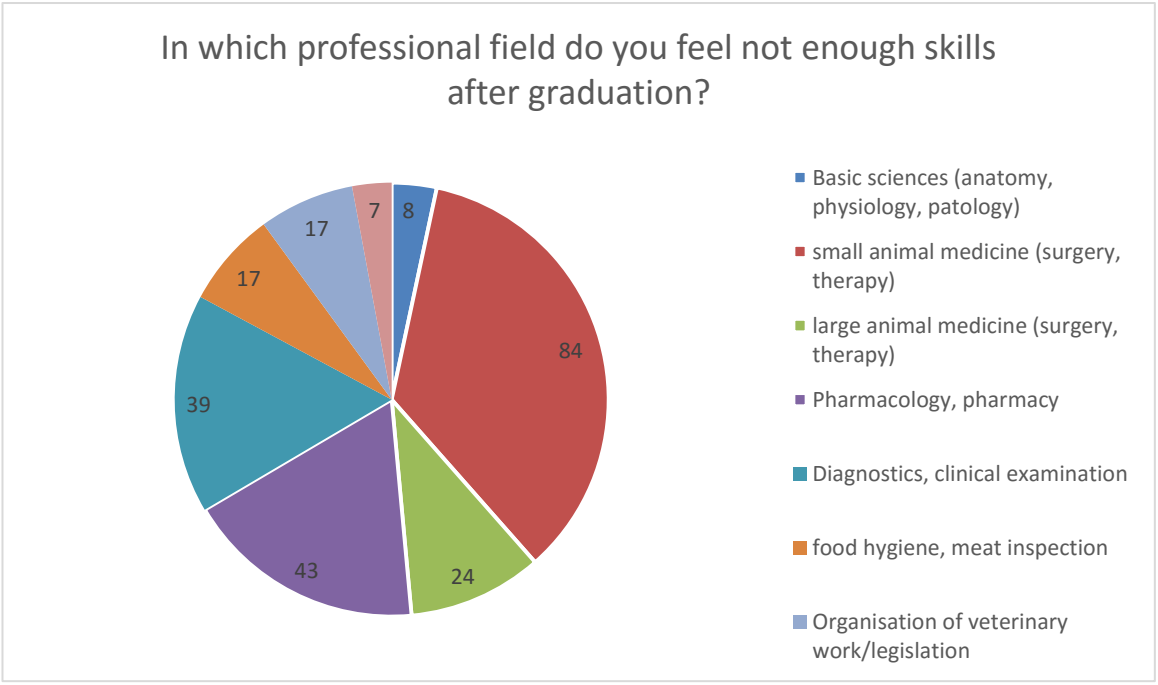


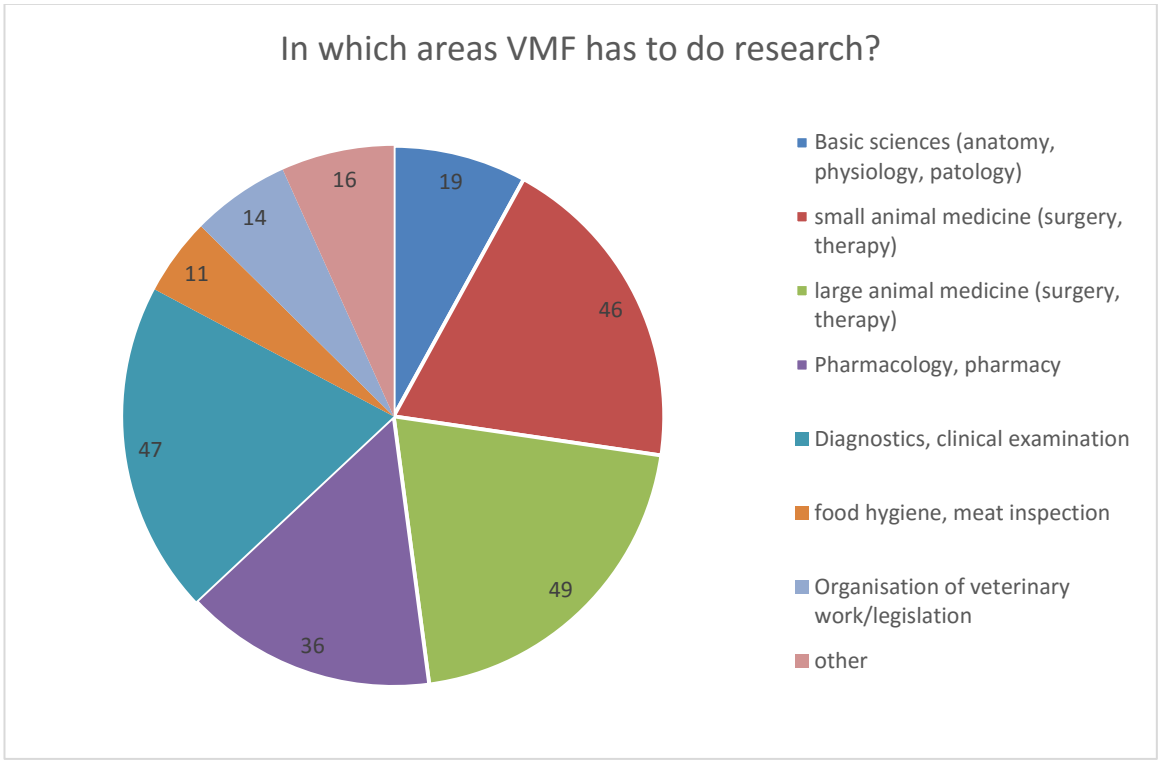


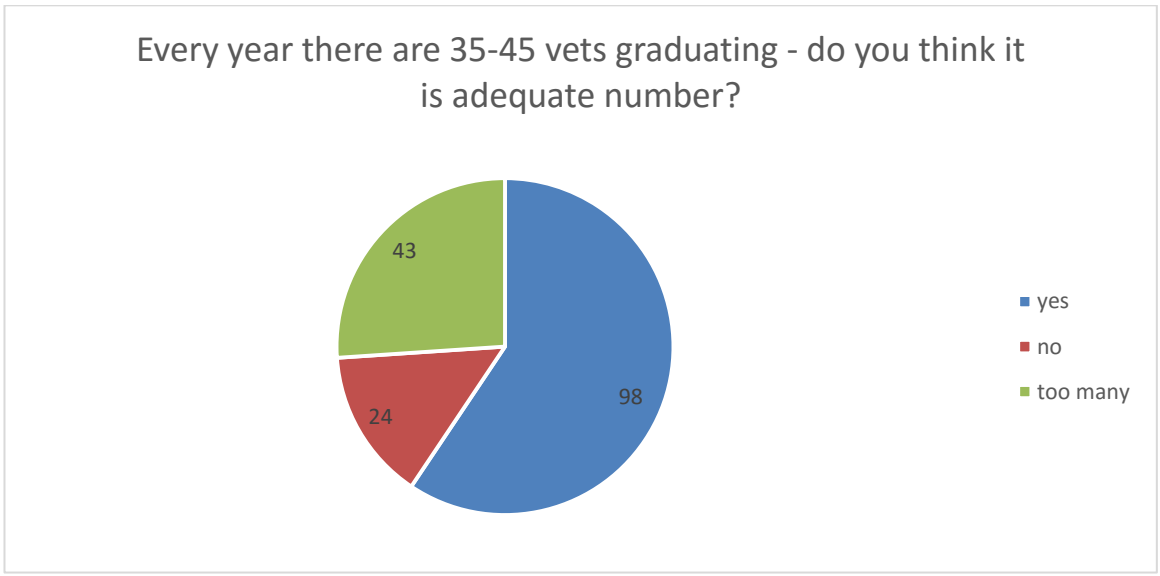

Your age
22
26
36
58
17
20-29
30-39
40-49
50-59
Above 60

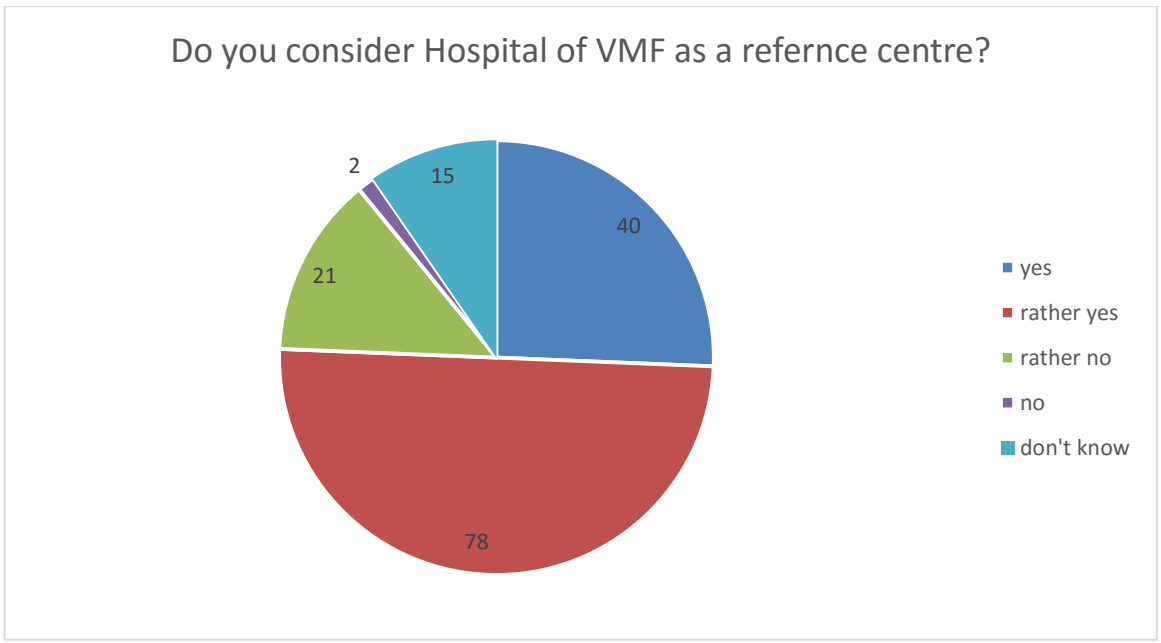

Does education obtained in the VMF corresponds to the market requirements?
32
110
20
2
corresponds
rather corresponds
rather does not correspond
does not correspond

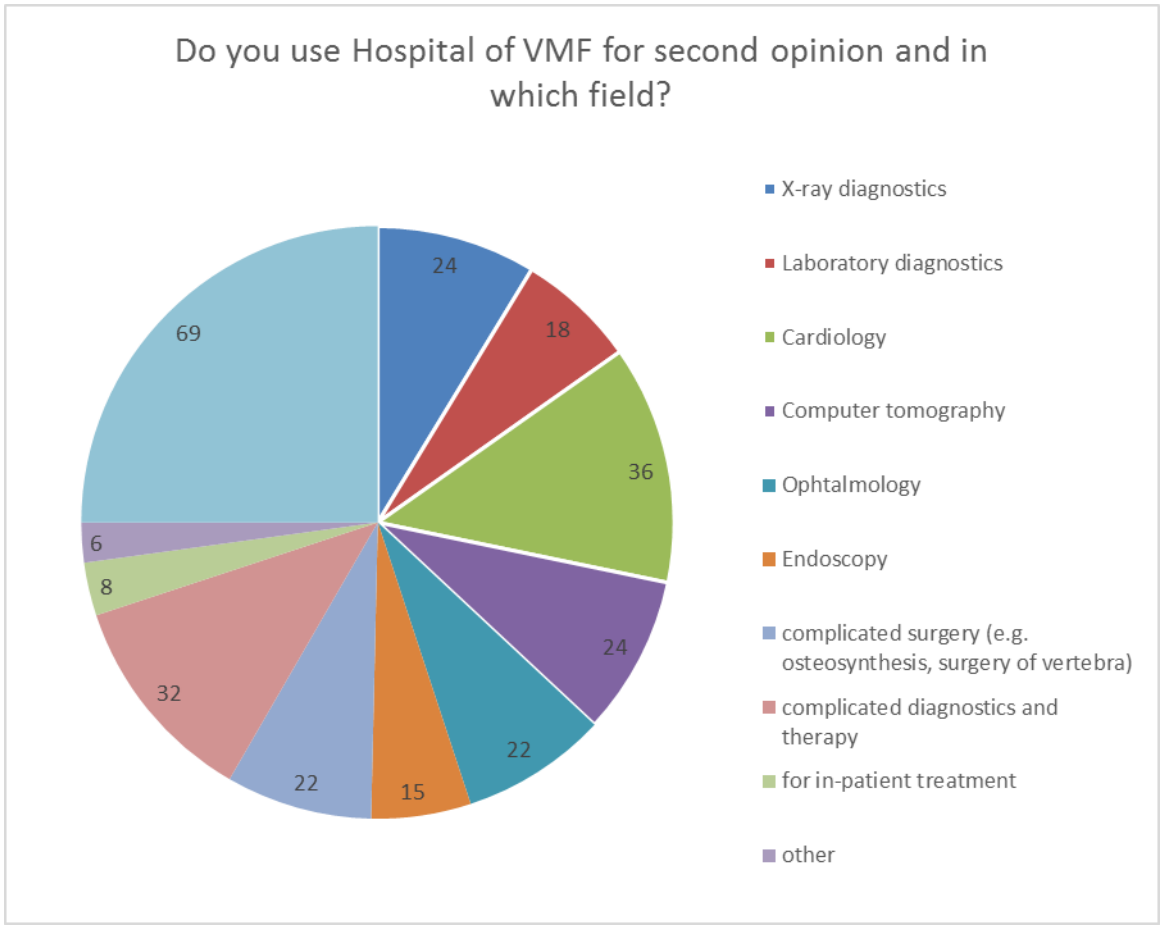

What kind of competences are the most missing just after graduation?
10
118
51
21
theoretic knowledge
practical skills
responsibility for work
iniciative

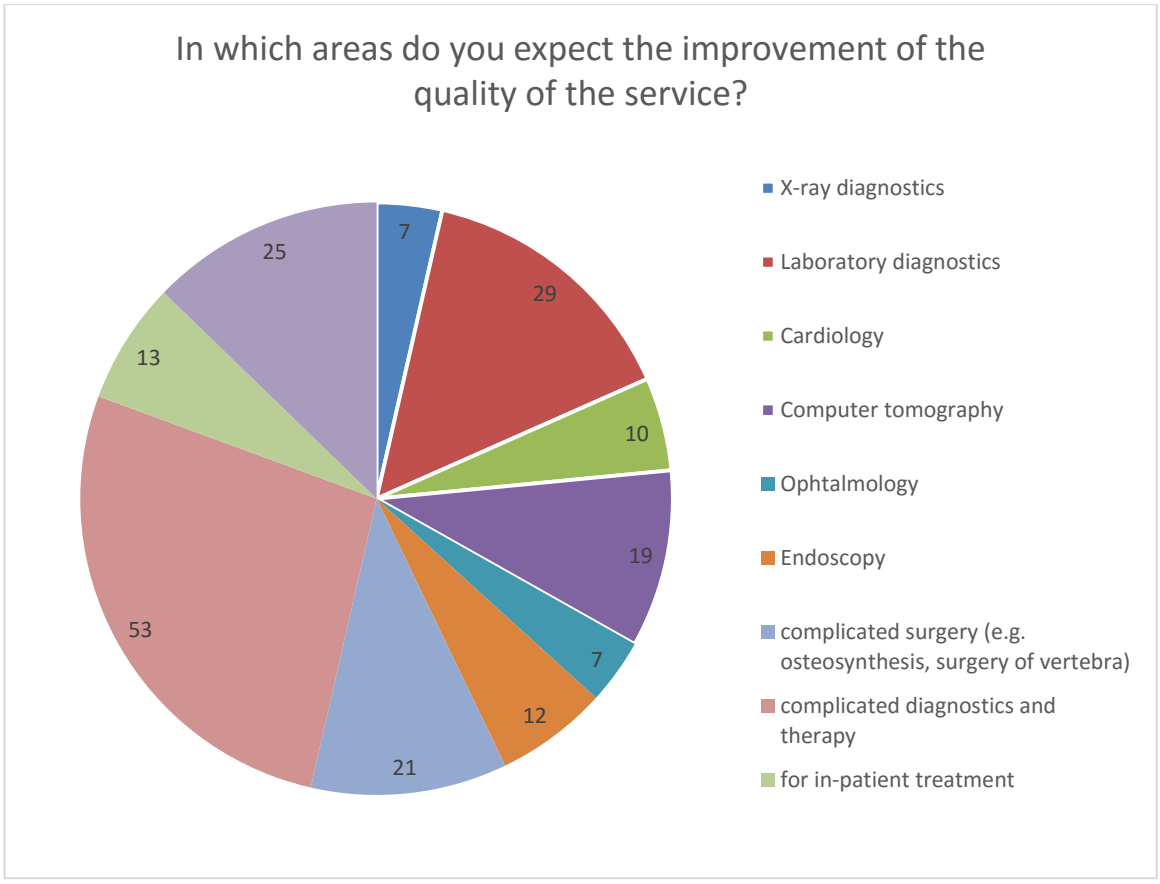

In which professional field do you feel not enough skills after graduation?
8
84
24
43
39
17
17
7
Basic sciences (anatomy, physiology, patology)
small animal medicine (surgery, therapy)
large animal medicine (surgery, therapy)
Pharmacology, pharmacy
Diagnostics, clinical examination
food hygiene, meat inspection
Organisation of veterinary work/legislation

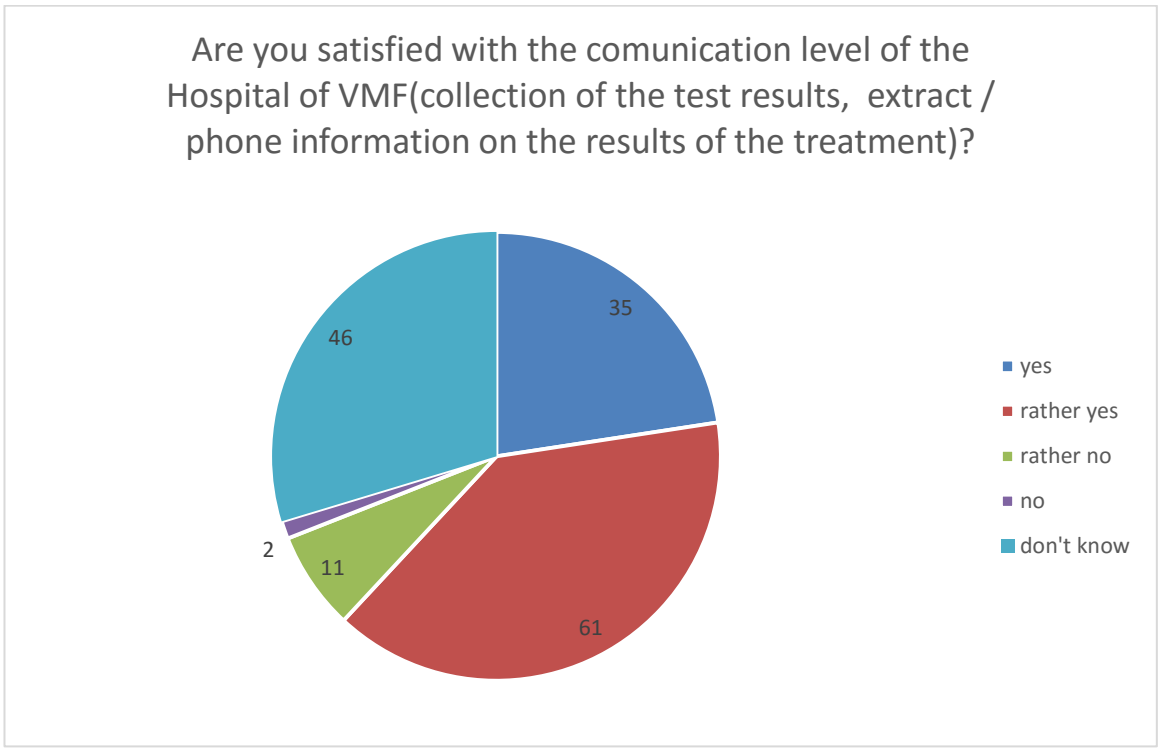

In which areas VMF has to do research?
19
46
49
36
47
11
14
16
Basic sciences (anatomy, physiology, patology)
small animal medicine (surgery, therapy)
large animal medicine (surgery, therapy)
Pharmacology, pharmacy
Diagnostics, clinical examination
food hygiene, meat inspection
Organisation of veterinary work/legislation
other

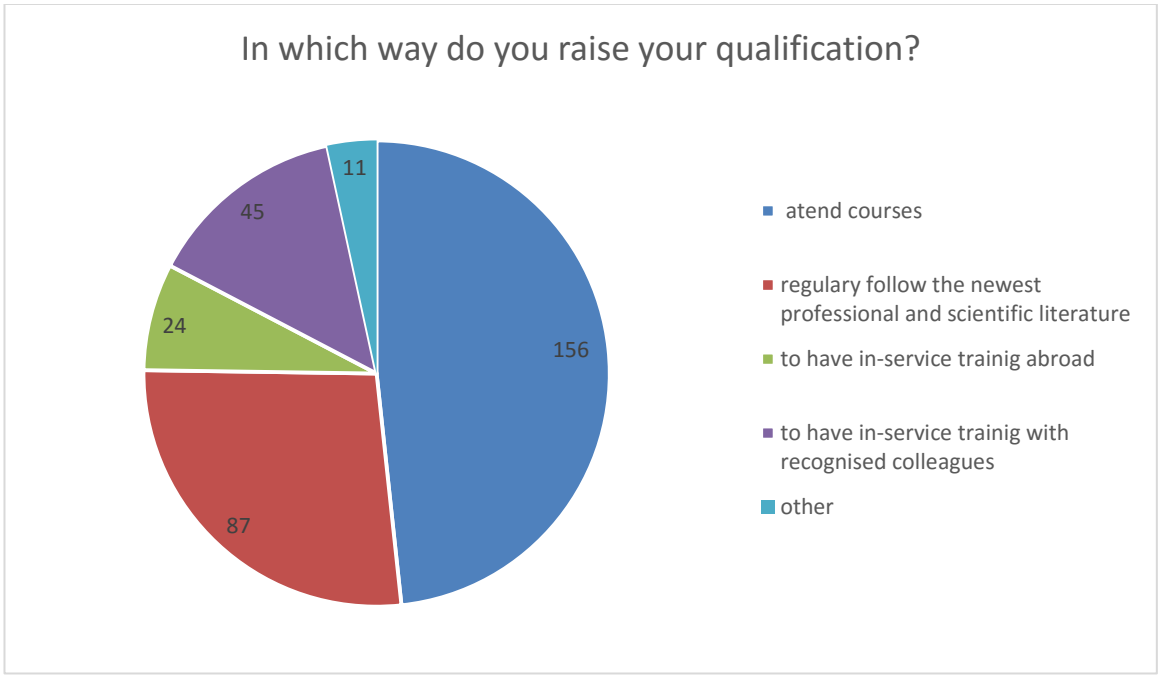

Every year there are 35-45 vets graduating - do you think it is adequate number?
98
24
43
yes
no
too many

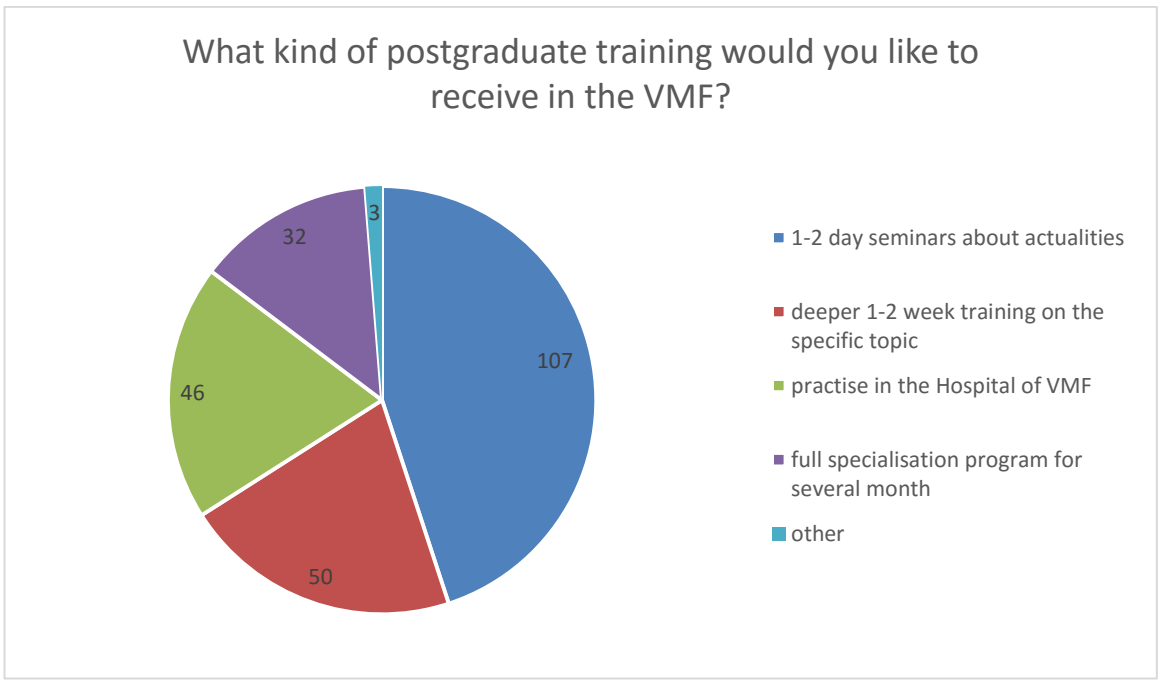

Do you consider Hospital of VMF as a refernce centre?
40
78
21
2
15
yes
rather yes
rather no
no
don't know


Do you use Hospital of VMF for second opinion and in which field?
24
18
36
24
22
15
22
32
8
6
69
X-ray diagnostics
Laboratory diagnostics
Cardiology
Computer tomography
Ophtalmology
Endoscopy
complicated surgery (e.g. osteosynthesis, surgery of vertebra)
complicated diagnostics and therapy
for in-patient treatment
other


In which areas do you expect the improvement of the quality of the service?
7
29
10
19
7
12
21
53
13
25
X-ray diagnostics
Laboratory diagnostics
Cardiology
Computer tomography
Ophtalmology
Endoscopy
complicated surgery (e.g. osteosynthesis, surgery of vertebra)
complicated diagnostics and therapy
for in-patient treatment

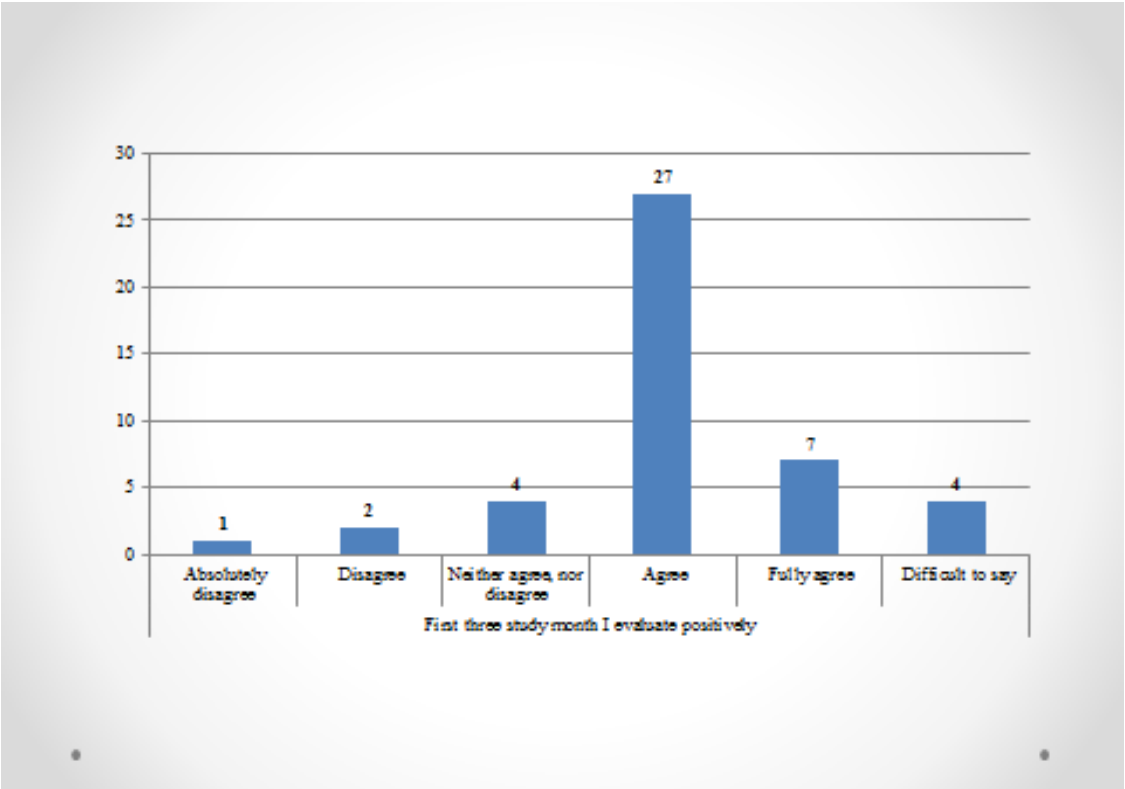

Are you satisfied with the comunication level of the Hospital of VMF(collection of the test results, extract / phone information on the results of the treatment)?
35
61
11
2
46
yes
rather yes
rather no
no
don't know

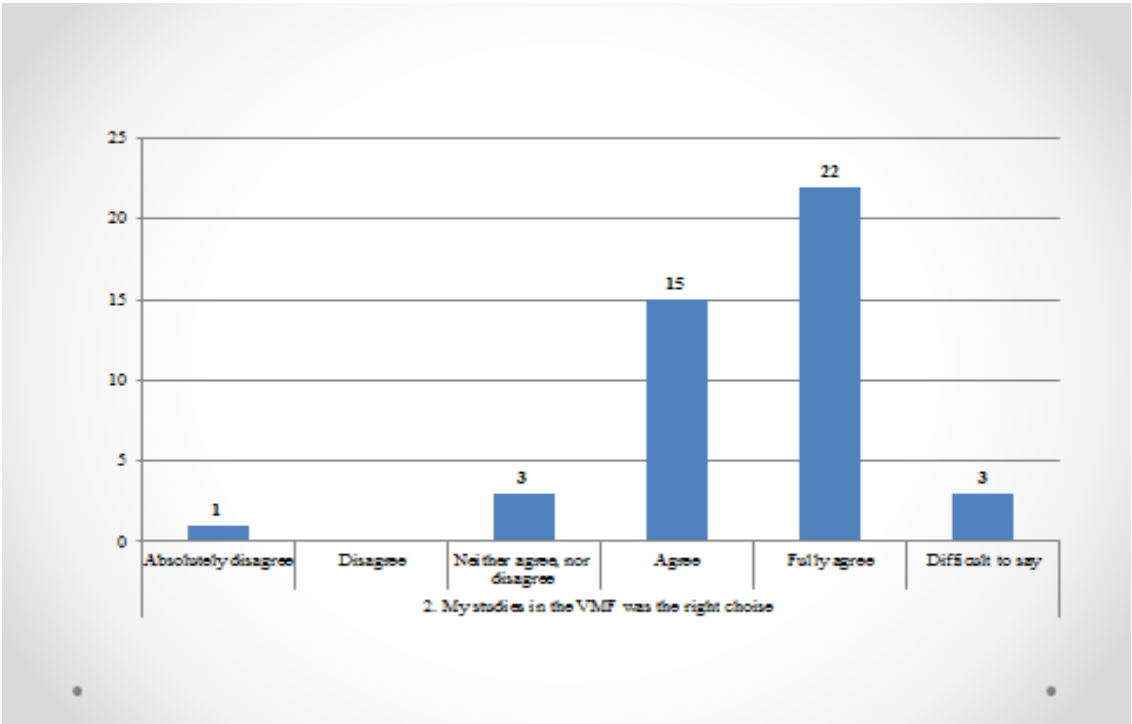

In which way do you raise your qualification?
11
45
24
156
87
atend courses
regulary follow the newest professional and scientific literature
to have in-service trainig abroad
to have in-service trainig with recognised colleagues
other

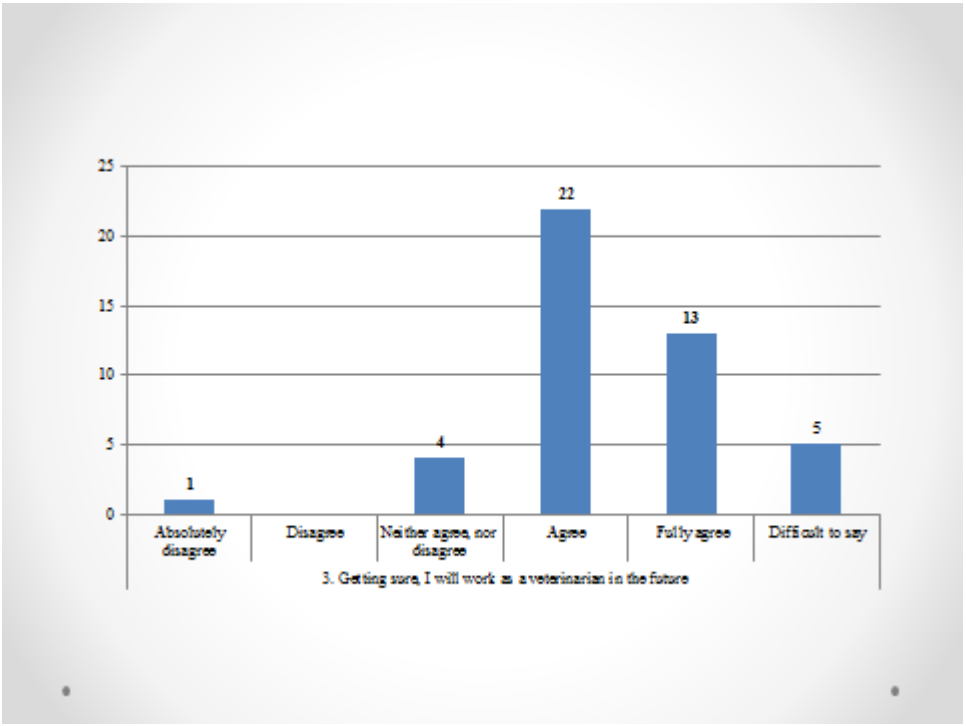

What kind of postgraduate training would you like to receive in the VMF?
3
32
107
46
50
1-2 day seminars about actualities
deeper 1-2 week training on the specific topic
practise in the Hospital of VMF
full specialisation program for several month
other

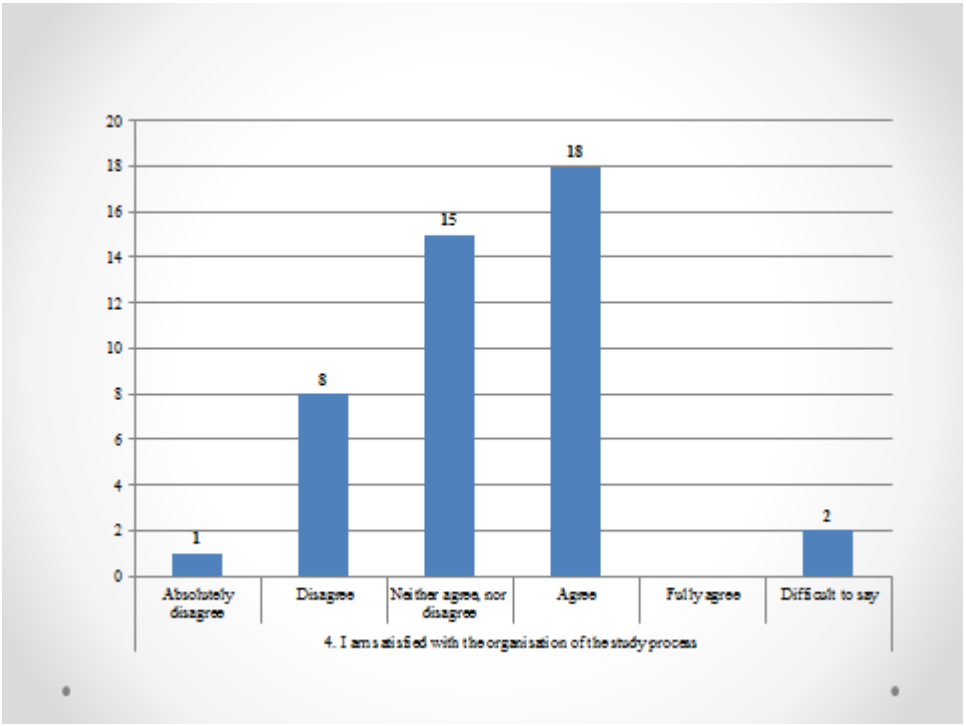
ANNEX XI

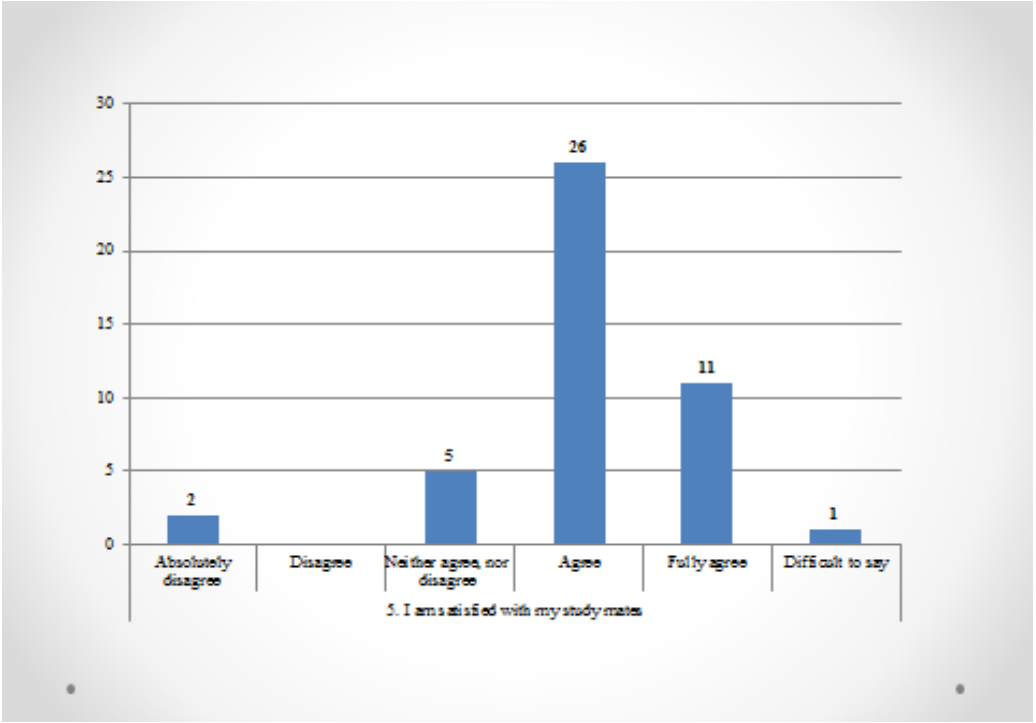
The results of the inquiry of the veterinary students of the first year (autumn, 2015)






25
20
15
10
5
0
1
4
22
13
5
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
3. Getting sure, I will work as a veterinarian in the future


20
18
16
14
12
10
8
6
4
2
0
1
8
15
18
2
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
4. I am satisfied with the organisation of the study process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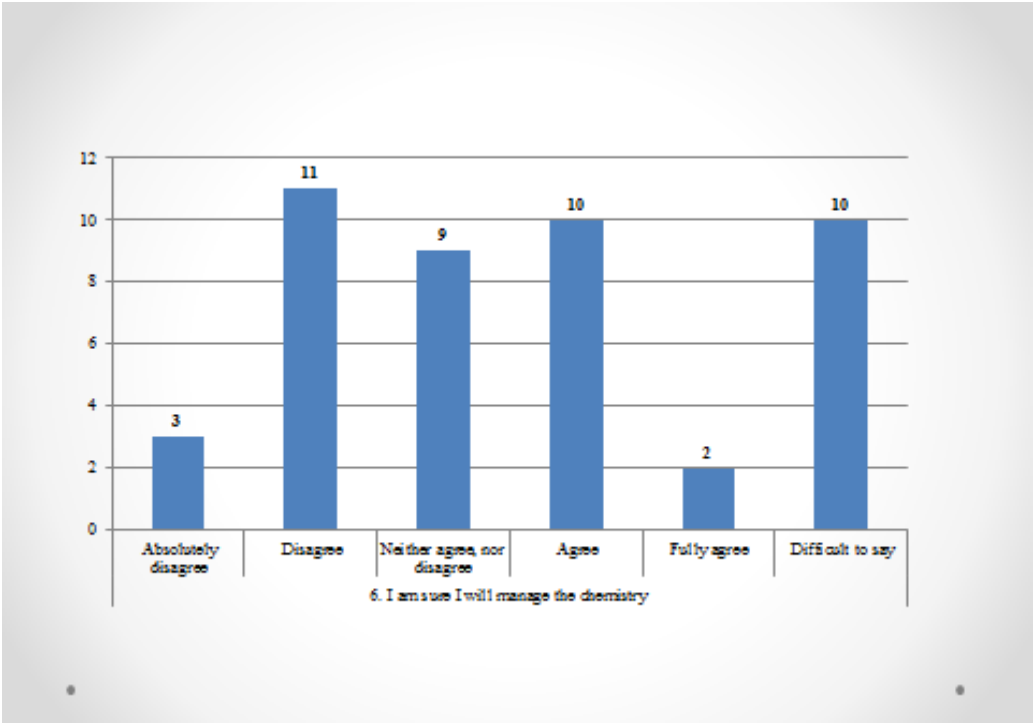
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
5. I am satisfied with my study mates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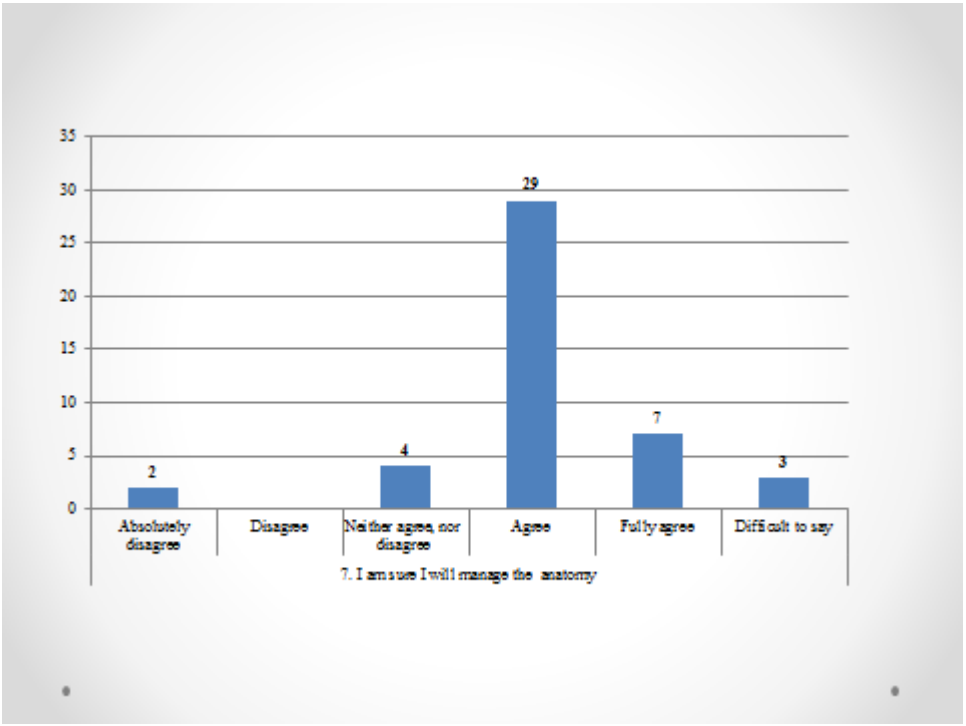
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
6. I am sure I will manage the chemistry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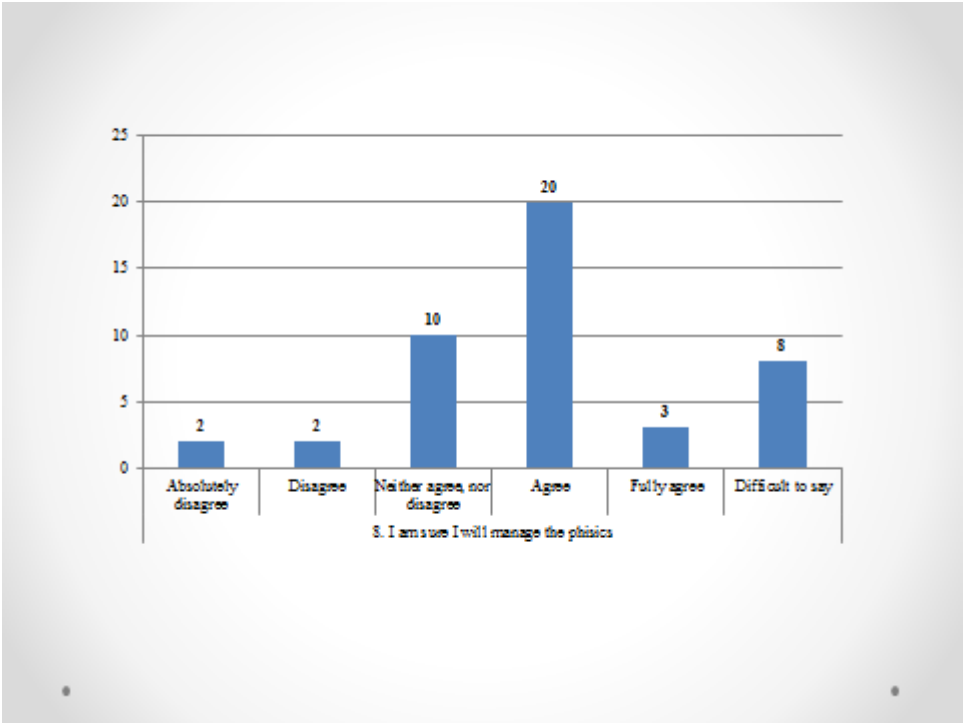
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
7. I am sure I will manage the anatomy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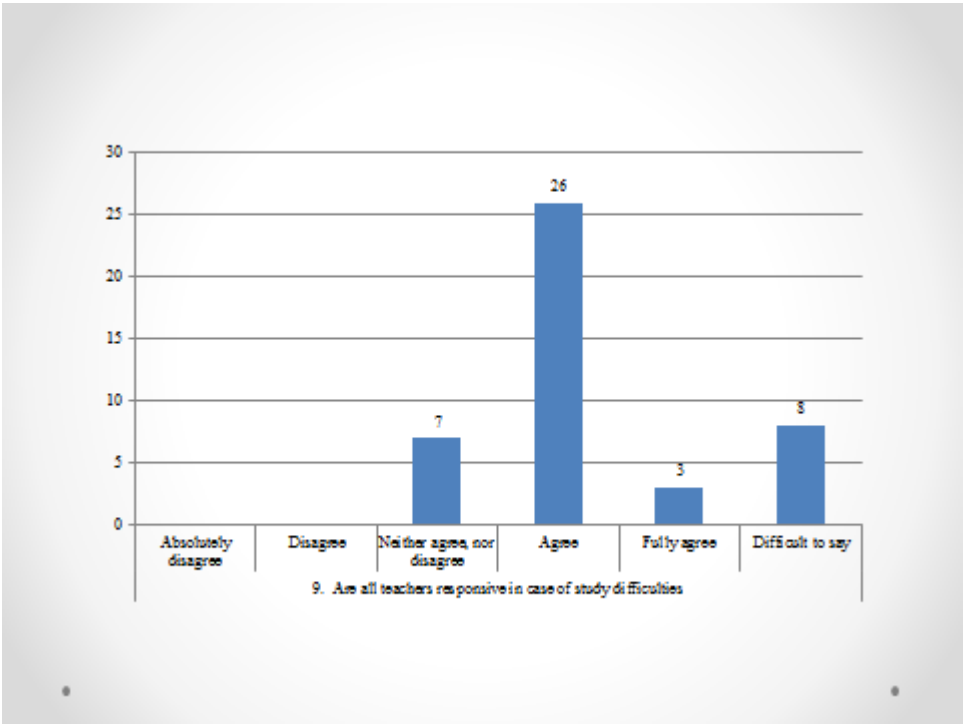
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
8. I am sure I will manage the physics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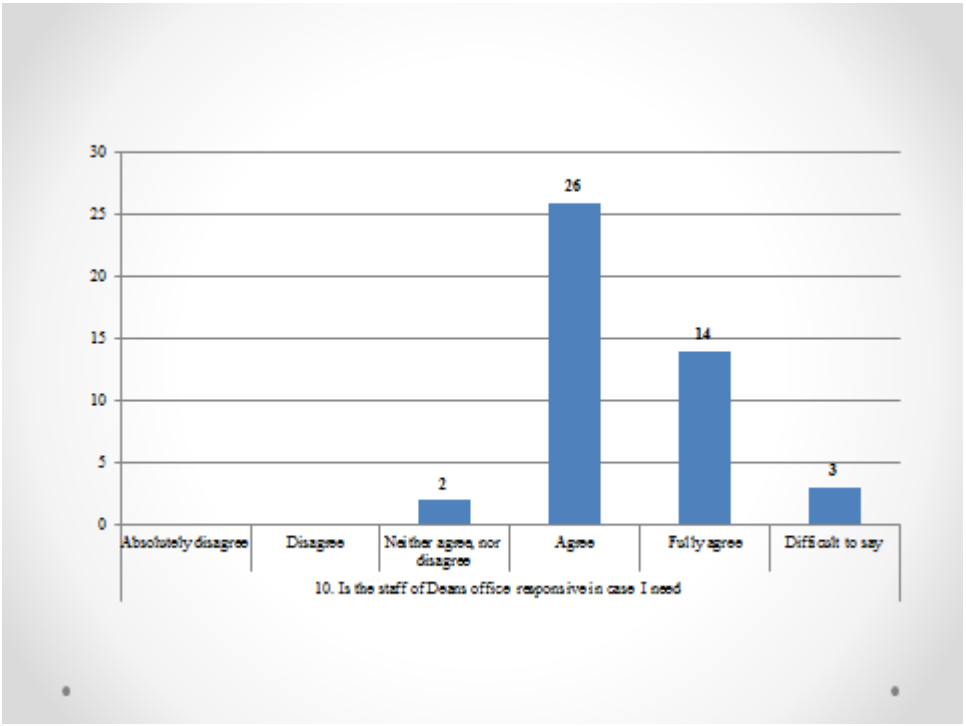
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
9. Are all teachers responsive in case of study difficulties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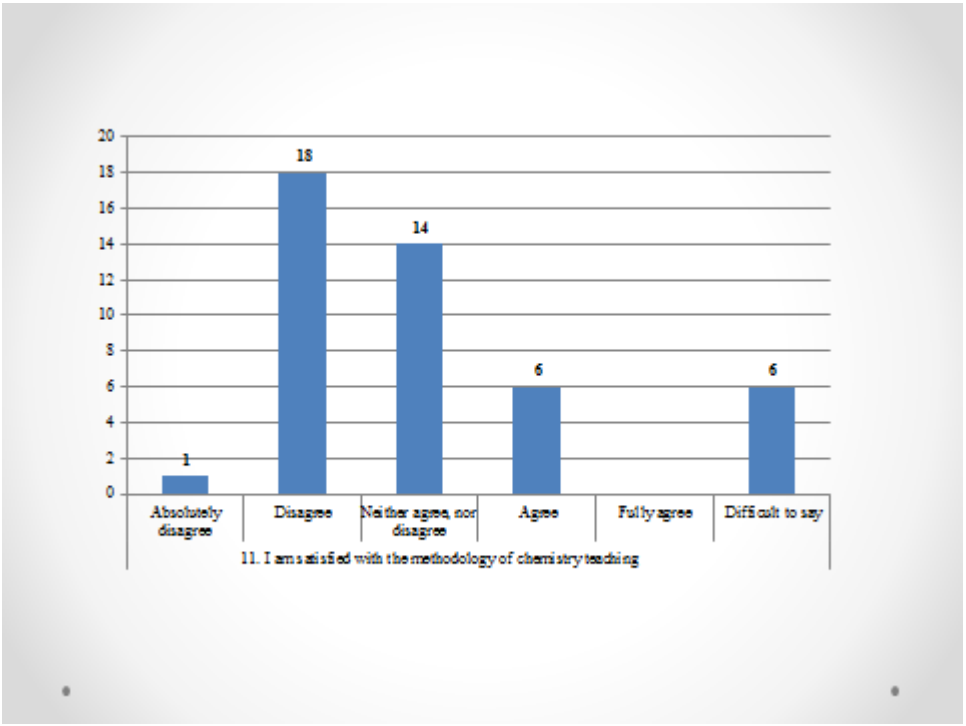
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
10. Is the staff of Deans office responsive in case I need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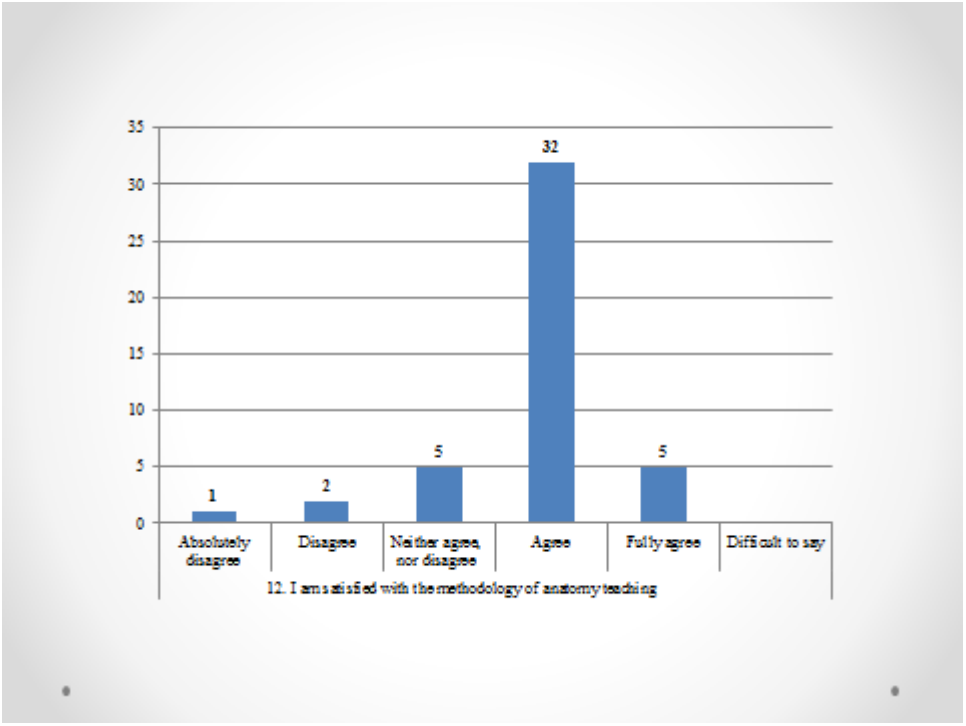
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
11. I am satisfied with the methodology of chemistry teaching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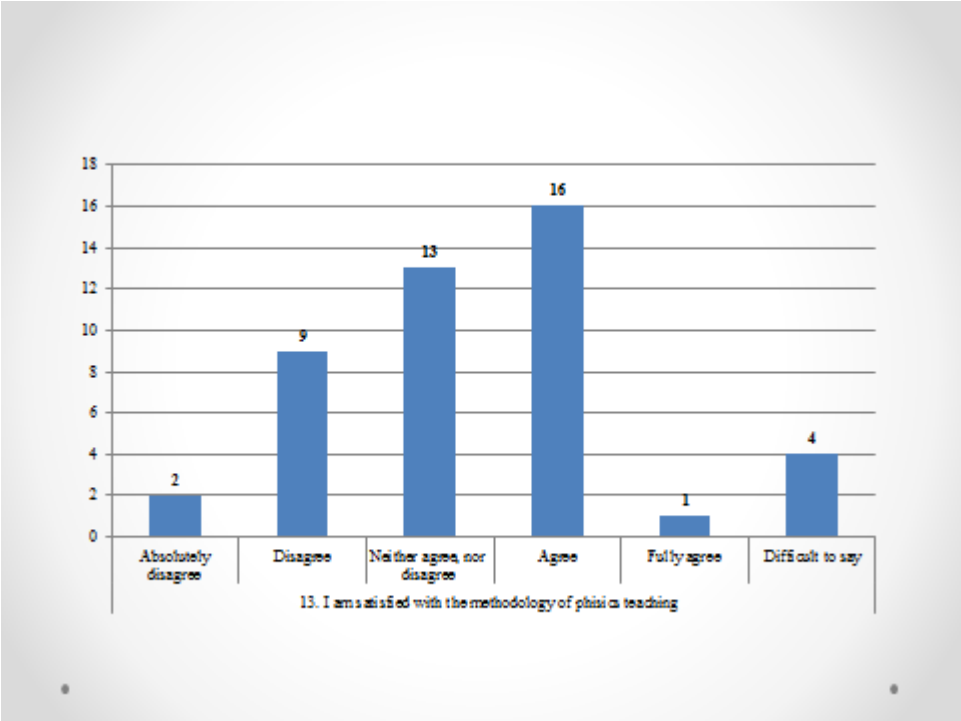
Absolutely disagree
Disagree
Neither agree, nor disagree
Agree
Fully agree
Difficult to say
12. I am satisfied with the methodology of anatomy teaching



1/09/2016

Asoc. prof. Ilmārs Dūrītis
Dean of the VMF