LITHUANIAN UNIVERSITY OF HEALTH SCIENCES
VETERINARY ACADEMY

STUDY FIELD OF VETERINARY MEDICINE

STUDY PROGRAMME
VETERINARY MEDICINE
(State Code – 601D2001)

SELF–EVALUATION REPORT

Rector of Lithuanian University of Health Sciences .................. Prof. Remigijus Žaliūnas
(Signature)

Chancellor of Veterinary Academy prof. Henrikas Žilinskas
(Signature)

Head of Self-evaluation team ...................... Prof. Albina Aniuliene
(Signature)

Kaunas
2012 June
**Table 1. Data on the Programme**

<table>
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<th>Study programme</th>
<th>Veterinary medicine</th>
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**Table 2. Self-assessment group members list**

<table>
<thead>
<tr>
<th>No</th>
<th>Academic title (research degree), name, surname</th>
<th>Position</th>
<th>Telephone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prof., dr. Albina Aniulienė</td>
<td>Dean of the Veterinary Faculty</td>
<td>+370 37 362 452 +370 6 1458877</td>
<td>dekanė@lva.lt</td>
</tr>
<tr>
<td>2</td>
<td>Prof. habil. Dr.Henrikas Žilinskas</td>
<td>Chancellor of Veterinary Academy</td>
<td>+370 68655844</td>
<td><a href="mailto:kancleris@lva.lt">kancleris@lva.lt</a></td>
</tr>
<tr>
<td>3</td>
<td>Prof. dr. Antanans Sederevičius</td>
<td>Vice-rector for Veterinary</td>
<td>+370 6 9803707</td>
<td><a href="mailto:antanas@lva.lt">antanas@lva.lt</a></td>
</tr>
<tr>
<td>4</td>
<td>Prof. habil.dr.Saulius Petkevičius</td>
<td>Head of the Infectious Diseases Department</td>
<td>+37067667396</td>
<td>petkevič<a href="mailto:ius@lva.lt">ius@lva.lt</a></td>
</tr>
<tr>
<td>5</td>
<td>Prof. dr.Vaidas Oberauskas</td>
<td>Vice-dean of Veterinary Faculty</td>
<td>+370 67403397</td>
<td><a href="mailto:vaidas@lva.lt">vaidas@lva.lt</a></td>
</tr>
<tr>
<td>6</td>
<td>Prof., dr. Vita Riškevičienė</td>
<td>Chairman of the Veterinary Faculty Council</td>
<td>+370 37 363 318</td>
<td><a href="mailto:vitarisk@lva.lt">vitarisk@lva.lt</a></td>
</tr>
<tr>
<td>7</td>
<td>Doc., dr. Mindaugas Malakauskas</td>
<td>Head of the Food Safety and Quality Department</td>
<td>+370 37 362 695 +370 618 55 450</td>
<td><a href="mailto:mindaugas@lva.lt">mindaugas@lva.lt</a></td>
</tr>
<tr>
<td>8</td>
<td>Prof. dr. Judita Žymantenė</td>
<td>Head of the Anatomy and Physiology Department</td>
<td>+370 61048846</td>
<td><a href="mailto:juditaz@lva.lt">juditaz@lva.lt</a></td>
</tr>
<tr>
<td>9</td>
<td>Doc. Dr. Audrius Kučinskas</td>
<td>Head of the Non- infectious Diseases Department and Large Animal Clinic</td>
<td>+370 68217686</td>
<td><a href="mailto:audrius@lva.lt">audrius@lva.lt</a></td>
</tr>
<tr>
<td>10</td>
<td>Prof., dr. Rasa Želvytė</td>
<td>Professor of the Anatomy and Physiology Department</td>
<td>+370 37 363 692 +370 610 488 98</td>
<td><a href="mailto:rasazel@lva.lt">rasazel@lva.lt</a></td>
</tr>
<tr>
<td>11</td>
<td>Prof., dr. Jūratė Šuigždaite</td>
<td>Professor of the Infectious Diseases Department</td>
<td>+37068525931</td>
<td><a href="mailto:Jurate.siuugzdaite@lva.lt">Jurate.siuugzdaite@lva.lt</a></td>
</tr>
<tr>
<td>12</td>
<td>Doc., dr. Alius Pockevičius</td>
<td>Docent of the Infectious Diseases Department</td>
<td>+370 68796376</td>
<td><a href="mailto:palius@lva.lt">palius@lva.lt</a></td>
</tr>
<tr>
<td>13</td>
<td>Vilius Dovydauskas</td>
<td>Student of Veterinary Medicine Study Programme</td>
<td>+370 61461565</td>
<td><a href="mailto:tadasjuknius@inbox.lt">tadasjuknius@inbox.lt</a></td>
</tr>
<tr>
<td>14</td>
<td>Dr. Vidmantas Paulauskas</td>
<td>Deputy Director of the State Food and Veterinary Service</td>
<td>+370 5 2404363</td>
<td>v <a href="mailto:Gaulauskas@vet.lt">Gaulauskas@vet.lt</a></td>
</tr>
<tr>
<td>15</td>
<td>Lecturer dr.Birutė Karvelienė</td>
<td>Hear of the dr. L. Kriaučiūnas Small Animal Clinic</td>
<td>+370 68034347</td>
<td><a href="mailto:birute.karveliene@lva.lt">birute.karveliene@lva.lt</a></td>
</tr>
<tr>
<td>16</td>
<td>Prof. dr. Artūras Stimbirys</td>
<td>Professor of the Food Safety and Quality Department</td>
<td>+370 37 363208</td>
<td><a href="mailto:arturas@lva.lt">arturas@lva.lt</a></td>
</tr>
<tr>
<td>17</td>
<td>Doc. Dr.Vida Babrauskienė</td>
<td>Docent Anatomy and Physiology Department</td>
<td>+370 61398286</td>
<td><a href="mailto:oftalmolog@lva.lt">oftalmolog@lva.lt</a></td>
</tr>
</tbody>
</table>
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ABBREVIATIONS

EAEVE – European Association of Establishments for Veterinary Education
CQAHE – Centre for Quality Assessment in Higher Education
ECTS – Study credits under European Credit Transfer System.
FVE – Federation of Veterinarians of Europe.

KMU – Kaunas Medical Academy;
LAVS – Lithuanian Association of Veterinary Surgeons
LUHS – Lithuanian University of Health Sciences;
LVA – Lithuanian Veterinary Academy;
MA – Medical Academy;
MES – Ministry of Education and Science;
MoA – Ministry of Agriculture.
NFVRAI – National Food and Veterinary Risk Assessment Institute;
OIE – World Organisation for Animal Health;
PE – Public Enterprise;
PTTC – Practical Training and Testing Centre;
SFVS – State Food and Veterinary Service;
SKVC – Centre for Quality Assessment in Higher Education
SMD – Scientific Society of Students;
SPC – Study Programme Committee
SSS – Student Scientific Society
VA – Veterinary Academy;
VF – Veterinary Faculty;
VFC – Veterinary Faculty Council;
VM – Veterinary Medicine;

INTRODUCTION

Lithuanian University of Health Sciences (hereinafter – LUHS) is a state, university type institution of higher education and it is a public legal entity, acting as a public institution. This is the only higher education institution in Lithuania which trains veterinary surgeons. Since 1936, veterinary surgeons used to be trained at Lithuanian Veterinary Academy (LVA). On 30 June 2010, the Seimas of the Republic of Lithuania decided to merge Kaunas Medical University (KMU) and Lithuanian Veterinary Academy (LVA). Institute of Animal Science and Lithuanian Veterinary Institute became LVA members in 2010, and presently they form an integral part of LUHS. LUHS is the largest university type school of higher education in the field of biomedicine studies in Lithuania and it continues pursuing the best traditions of KMU and LVA. LUHS strategy is formed by the Council and managing body of the University - Senate, whereas executive functions have been attributed to the Rectorate of the University. LUHS consists of two main units: Medical Academy (MA) and Veterinary Academy (VA). Studies take place in faculties, institutions of science and clinics. 7031 students study in LUHS programmes. The University offers programmes in 22 study fields.

377 students study at the LUHS from more than thirty countries of the world: Sweden, Spain, Israel, India and etc. Starting from 2011, foreign students are admitted also to the study programme of Veterinary Medicine.

LUHS – is an active participant of ERASMUS Exchange programme. Students can study up to one year at foreign universities and to leave for practice. Agreements on academic Exchanges have been signed with universities of 26 European countries. Majority of ERASMUS partners are in Germany, Spain, France, Finland and other EU countries.
117 professors, 246 associate professors, 265 lecturers and 418 assistants work at LUHS. An adequate number of qualified scientists, teachers and practitioners allows carrying out basic, master’s and doctoral studies of high quality in the area of biomedicine. A study quality assessment system is in place at LUHS and a continuous monitoring over the implementation of the study process is carried out by the Study Quality Assessment Commission.

A new and modern library with its unit, VA, Career Centre, Publishing House, Professional museums, a bookstore, sport clubs, Information Technologies Centre and other units operate at LUHS.

Veterinary surgeons, animal husbandry and veterinary safety specialists are trained at the VA. Specialists trained at the Academy comply with contemporary requirements. Structure and content of the Study Programme is improved consistently taking into account national qualification requirements of the Study Programme and recommendations of the European Association of Establishments for Veterinary Education (EAEVE).

VA has two faculties: Veterinary and Animal Husbandry Technology. The main units of the Academy, which take part in the study process and scientific work, are as follows: 7 departments, 1 institute, 4 centres of science, 11 research laboratories, Large-Animal Clinic, Dr. L. Kriauciliūno Small-Animal Clinic and 3 training centres: centres of practical training and testing, continuation learning and J. Taco milking training at the VI; Veterinary Medicine Programme involves in the practical training other LUHS units too, i.e. departments of medicine and public health.

The Faculty pursues fundamental, applied scientific research, experimental development, other scientific activity endowing students with research skills, improving professional qualification of teachers and workers of science and creating conditions for supplementing the subjects with latest knowledge of science and practice.

Team of EAEVE and TAIEX experts visited Veterinary Faculty on 23-29 September 2002 and evaluated Veterinary Medicine Programme. Taking into account comments of experts many organizational changes have been effected: enlargement of the departments; more coordinated teaching in certain areas among divisions of the departments (for example, from farm to table), horizontal and vertical integration between divisions and faculties (VF and GT), revision and strengthening of deans’ and vice-deans’ duties and responsibilities. Functions of the heads of departments were reinforced; they are responsible for the co-ordination of the teaching process in their areas, its quality and scientific work. More different committees and commissions have been set up which participate in the preparation of different procedures in the fields of science, studies, quality assurance and evaluation and in the process of implementation and control.

After adoption of the new Law on Higher Education and Research (30 April 2009 No XI-242) documents governing University and Faculty studies have been amended. After the merge of the universities we again had to unify and adapt new procedures, regulations and provisions. At the present time the number of documents governing studies and science and approved at the University Senate or Faculty councils is 20. The most important of them are: LUHS Studies Regulation (PDF), LUHS provisions on stipends (PDF); LUHS procedure for inclusion of study outcomes (PDF), LUHS Erasmus inclusion procedure (PDF); Appointment of LUHS coordinator and programme supervisors (PDF); Procedure for establishing and comparing averages of the outcomes of studies of students of the first cycle and integrated studies (PDF); Procedure for transferring a student to a vacant state-funded and vacant non-state-funded seat in LUHS (PDF).

Material condition of the Academy’s auditoriums, laboratories and ancillary premises has essentially changed over the last 10 years, they have been all renovated and equipped with new equipment. Pathology Centre was removed from Central Chamber to other premises and installed so as to meet latest requirements. Food Safety and Quality Department has been also set up in bigger premises and provided with required equipment. Infectious Diseases Department, animal nutrition and chemistry laboratories appeared after capital renovation. A vivarium has been refurbished;
laboratory animals in it are kept in suitably adapted stalls. Renovation of Large Animals Clinic and Anatomicum etc is going towards the end.

New buildings: in Practical Training and Testing Centre (PTTC) a new, modern cold cattle keeping farm with premises for students has been constructed. National Food and Veterinary Risk Assessment Institute (NFVRAI) set up on the territory of Academy with laboratories where students can train their skills. Part of the same building is occupied by Infectious Diseases Department. Renovated Academy premises accommodated Veterinary Institute which significantly updated equipment intended for scientific research. Former Academy premises have been also inhabited by state enterprise „Pieno tyrimai“ in which students can practice. Merge with Medical University expanded a possibility to use their material base, including the library which is the best among higher education institutions.

Veterinary Medicine Studies Programme was constantly improved over the period of 10 years. Presently it complies with the Directive 2005/36/EC and national legal acts:


In 2011, a self-analysis of the Programme was carried out in accordance with the said and following documents: Director of the Centre for Quality Assessment in Higher Education Order No 1–01-162 “Methodology for the Evaluation of the Implemented Study Programmes”. (Official Gazette 2010, No 156-7954)


After that it was evaluated by external experts and accredited for 6 years

Changes in the Study Programme:
- Organization and conditions of admission;
- Method of funding;
- Objectives and outcomes of the Programme, day one skills
- Principles for the assessment of the quality of the Programme;
- Content and structure of the Programme;
- Teaching methods;
- Implementation of ECTS;
- Organization of practices;
- The Programme is completed with the preparation of the master’s final work.

Important decisions made by the Faculty:
1. Questions relating to the improvement and development of infrastructure were resolved;
2. Questions regarding merger with Kaunas Medical University;
3. Questions regarding creation and implementation of new study programmes:

In 2004, the Faculty started implementing a new study programme – Veterinary Food Safety, and from 2009 – master studies in the same field. For those who completed this programme a qualification bachelor’s (or master’s) degree in public health is awarded. While implementing the
Programme more teachers have been attracted to the Department of Food Safety and Quality (technologists, food chemists), therefore instruction of food hygiene for the veterinary students improved.

The year 2006 veterinary residency studies was opened They are implemented in 11 programmes.

4. Introduction of ECTS system;
5. Improvement of the quality of studies;
6. Strengthening of the link with science, clinical practice and business (implementation of the Nemunas Valley project, creation of open access research centres).
7. Development of international activity (Erasmus, NOV, NOVA BOVA).

Major problems encountered by the Faculty:

1. Too small financing of the Faculty, insufficient resources meant for acquisition of up-to-date equipment;
2. Big wastage of students due to difficult financial situation and other reason;
3. Insufficient attractiveness of scientific works for business and level of practical applicability;
4. Insufficient tariffs based on expenses for various diagnostic and curative procedures in presence of prices for equipment, drugs and preventive means of the international level;
5. Insufficient fund of financing and re-financing of scientific researches;
6. Big load of hours of lecturing and clinical work of lecturers.
7. Quite small number of lecturers coming from abroad.
8. Not formed legal basis of resident employment in the places of residency.
9. Insufficient experience and abilities to prepare new study projects of big volume;
10. Insufficient salary on all levels with regard to salary of the analogous work abroad;
11. The financing of the University (and Faculty) is directly related to the student bags (national legal basis), but it is inversely proportional to the study program: in case of same financing and smaller number of students it is possible to achieve better quality of studies.
12. New employees, who have graduated from other veterinary schools, do not come to the Faculty (lecturers, scientists).
CHAPTER 1. OBJECTIVES

1.1 FACTUAL INFORMATION

An official list of the overall objectives and tasks of the Veterinary Faculty:

1. To carry out and develop veterinary and veterinary food safety studies of the highest quality in order to provide a research-based contemporary level of knowledge and technologies compatible with higher university education and higher education qualification, to foster a civil, comprehensively educated, creative and entrepreneurial personality.

2. To develop in a sustainable way scientific knowledge in the area of biomedicine, execute high level scientific research and experimental development. To develop scientists, perform comprehensive practical activity. To co-operate with national and foreign partners in the areas of science and other areas.

3. To provide animal health care services of the highest level. To create conditions for developing science and studies in the clinical base, provide clinical, methodological and consultation services for small and large animal breeders, food producers and consumers.

4. To seek for effective management and control processes, while increasing effectiveness of the faculty’s activity, improving management of material resources and use of means, developing human resources and ensuring welfare of the faculty’s staff and students.

Tasks:

1. To optimize the structure of the faculty’s study units.
2. To improve the quality of studies: elaborate the process of studies, study programmes, and introduce ECTS (European Credit Transfer and Accumulation System) studies centred around the student and to increase teachers’competencies.
3. To develop E-studies and electronic administration of studies.
4. To create new study programmes.
5. To improve admission of students.
6. To encourage and support students to take active part in scientific and social-public student activity while evaluating and improving the process of studies.
7. To strengthen interaction of studies with science, clinical practice and business.
8. To increase the number of foreign students in veterinary medicine and veterinary food safety programmes.
9. To promote academic exchanges with the aim of increasing numbers of arriving and departing students and teachers.
10. To develop lifelong learning.
11. To improve ties with graduates.
12. To create and develop modern infrastructure required for fundamental and applied science research and business needs, to use it more rationally.
13. To develop scientists and create conditions for growing of their scientific competency.
14. To increase internationality of scientific research and integrate in the common European research area.
15. To develop ties of scientific investigations with business and increase commercialization of the results of scientific research. To carry out educational activity while promoting achievements of science and increasing prestige and visibility of science.
16. To develop animal health care services while increasing their range and forming new patient flows.
17. To implement a system of information technologies for the management of patient flows including possibilities of data accumulation, exchange and analysis.
Objectives and tasks of the Faculty are planned by the working group composed of the department employees. Having done environmental analysis, identified weaknesses, strengths, opportunities and threats the working group prepares directions of strategic activity. Prepared objectives and tasks are considered at the Faculty Council, approximated to the objectives and tasks (strategic plan) of the University and integrated. Vision, mission and strategic plan of the University is considered at the Rectorate and Senate. The Senate submits restructuring plans regarding University activity and structure for the consideration of the University Council.

The strategic development plan of the University (and faculties) is usually made for 5 years. Presently a plan of 2011-2016 is approved. However each year the strategic plan is revised and a one-year plan is prepared. The plan of activity is revised by the working group and it is approved at the Senate.

The strategic development plan of the University and (faculties) foresees measures, indicators, terms, responsible persons and implementers of strategic objectives and tasks. While implementing its strategic objective, the University fulfils the programmes (currently three programmes). Each programme receives annual appropriations.

Each year heads of departments and clinics account for the activity of the department to the Faculty Council.

Dean of the Faculty must also account to the Faculty Council for the activity, implementation of objectives and tasks of the Faculty each year writing a report to the Rector. Chancellor of the Academy co-ordinates its activity, submits to the University Rector proposals regarding development of the Academy and represents it. Chancellor of the Veterinary Academy supervises financial activity of the Academy. The Rector heads University, organizes its activity by ensuring implementation of the strategic plan, proper management and use of funds and property; submits for the approval of the Council and publicly announces a yearly report on the activity of the University, annual income and costs estimate and a report on the execution of this estimate.

University Council prepares a yearly report and submits it to the Ministry of Education and Science of the Republic of Lithuania.

1.2.COMMENTS

Since presented objectives and tasks of the Faculty were revised and adjusted after the merger of two universities, there is place for improvement. At the present time we think that some of them are implemented at the average level, others – at the high level and implementation of still others has not yet been started.

Main strengths and recommendations of the Faculty (taking into account an opinion of experts, 2011):

**Strengths**

**Programme aims and learning outcomes**

- The aims and learning outcomes of the programme comply with national and international regulations set forth for the Veterinary Surgeons.
- Programme integrates academic and professional studies at the university level.
- Programme is unique in Lithuania, the labour market demand for the graduates is high and they are able to start professional activities immediately after graduating.

**Curriculum design**

- The curriculum is consistent with EU directives on veterinary training.
- There is a good balance between theoretical and practical work.
- The recent introduction of new teaching methods.
- All major areas of Veterinary Medicine are covered.
- The students receive a solid basic science education.
- The curriculum ensures that the learning outcomes are met in most areas of Veterinary Medicine.
- The Master Thesis is an important part of the curriculum.
- An excellent rating among the Lithuanian veterinary profession.

Staff

- Veterinary Academy at LUHS has gathered together most of the best experienced Veterinary Medicine professionals of Lithuania.
- Most of the staff involved in realisation of programme meets the legal qualification requirements; their qualifications are adequate to ensure learning outcomes.
- For the present, motivation of university staff remains sufficiently high.
- The turnover of teaching staff ensures an adequate provision of the programme.
- The improvement of professional skills and qualifications is performed on regular basis by means of participation in conferences, seminars, workshops, training sessions and short-term exchange programmes.

Facilities and learning resources

- The concentration of the resources within LUHS provides new possibilities for the Veterinary Academy to cooperate with the Medical Academy and research institutes, who are integrated into one academic establishment.
- Veterinary Academy at LUHS is situated in a separate campus having most of the necessary facilities and teaching resources brought in close proximity.
- Multiple local and international funding sources, including the Structural Funds of the EU, are successfully combined to improve the quality of premises and to obtain modern research and study equipment.

Study process and student assessment

- Specialists of Veterinary Medicine are of great demand; the graduates enjoy a very high employment rate.
- The study programme gains popularity among international students.
- The teaching and training facilities are close to each other.
- Transition to modern learning strategies.
- Increasing students’ involvement in scientific researches is commendable.
- Active participation in student mobility programmes.
- Students receive adequate academic support.
- Most of the graduates are employed by the profession acquired.
- Clear and adequate assessment principles and criteria.
- Variety of assessment methods.

Programme management

- Adequate organisational structure to assure the implementation and monitoring of the study programme at the University and Faculty level.
- Clearly defined responsibilities of different academic bodies at the Faculty level.
- Well-functioning study programme committee.
- Regular collection of the feedback information from the students and graduates.
- Regular self-evaluation of the programme at the Faculty level.

RECOMMENDATIONS

Having regard to the goals of the development of the integrated study programme in Veterinary Medicine at the LUHS towards full international recognition and obtaining accreditation from EAEVE, whose visit is planned at LUHS in 2012, the expert team would like to recommend the Curriculum Committee of the programme and the administration of the Veterinary Academy to consider the following activities:

1. to elaborate the concepts of the clinical skills and research aptitude of the graduates at defining the learning outcomes of the programme;
2. to enlarge the clinical part of the curriculum and to consolidate the part of clinical rotation in blocks of at least one week at the time;
3. to support the internationally competitive research of the staff in order to safeguard the concept of research based training;
4. to recruit more clinicians in official teaching status within the programme, in key areas – European level specialists should be involved as far as possible;
5. to provide more transparency at the clinical part of the programme using internationally accepted terminology rather than „infectious“ versus „non-infectious“ diseases;
6. to upgrade the clinical facilities and equipment, in particular Small Animal Clinics and Large Animal Clinics;
7. to explore the possibility to increase horizontal and vertical integration among the subjects and to increase the electives in order to develop a certain measure of tracking within the programme;
8. to reconsider the course plans for the first three study years in order to promote student-centred learning;
9. to develop more transparent terms of funding for the constituent parts of the programme in particular for the financial support for the practical placements and for the Master Thesis projects;
10. to develop the study quality assurance system as a tool to foster innovation and development of the study programme according to the changing needs of practicing veterinarians.

1.3 SUGGESTIONS

Good conditions have been created for the Faculties to develop and show initiative. As of 12 February 2010, the VA implements a 36.6 million Litas worth integration project of science and studies “Development of studies and infrastructure of animal health, nutrition and animal food raw material (No VP 2-1.1.—MSE – 04 –V-01-009). 2 research centres of new access was created accommodating 8 new scientific laboratories; in 7 of them scientific equipment updated and study facilities have been reconstructed.
CHAPTER 2. ORGANISATION

2.1 FACTUAL INFORMATION

Details of the Faculty
Name of the Faculty: Veterinary Faculty
Address: Tilžės 18, LT - 47181 Kaunas, Lithuania
Telephone: +370 37 362383, 362452
Fax: +370 37 362417                         Website: www.lsmuni.lt
E-mail: kancleris@lva.lt; dekane@lva.lt

Title and name of the head of the Veterinary Academy and Faculty:
Chancellor of Veterinary Academy – prof. Henrikas Žilinskas
Dean of Veterinary Academy - prof. Albina Aniuliene

Faculty is within the University of Lithuanian University of Health Sciences. Address of the University:
A.Mickevičiaus str. 9, LT – 44307 Kaunas, Lithuania.

Competent Authority overseeing the Faculty
LUHS has collegial management bodies – University Council (11 members, length of the term – 5 years), University Senate (academic affairs management body formed of 49 scientists, members of administration and students for the period of 5 years), as well as a one-man management body – University Rector elected by the Council. Rector manages the University, organizes its activity ensuring implementation of the University’s strategic activity plan. Rector is assisted by chancellors and vice-rectors. Rector’s orders are mandatory to all LUHS employees, students and associated students.

Pro-rectors and chancellors oversee the Faculty according to the areas of their activity. Veterinary Academy has Chancellor and Vice-rector for Veterinary.

The present LUHS management structure should be deemed to be optimal, since it covers all stages of studies and scientific work and the works carried out in the units are reviewed in the Rector’s annual report which is submitted for the consideration and approval of the Council.

Rules concerning the appointment of the elected officials of the Faculty (Dean, Vice-dean, Heads of Departments)

Faculty dean is elected pursuant to the Regulation Governing Election of the Faculty Dean of Lithuanian University of Health Sciences“ approved by the Senate Protocol No 2-05 on 29 October 2010; head of the department, institute, clinic is elected pursuant to the Regulation Governing Election of the Head of the Institute, Profile Clinic of Lithuanian University of Health Sciences“ approved by the Senate Protocol No 2-05 on 29 October 2010.

A tender to take the position of the Faculty dean, head of the department, institute and clinic is announced by the University Rector at the request of the Staff Service no later than 3 (in case of the dean - 2) months before the end of their terms.

At the request of the Rector persons to these positions are elected by the Senate of the Lithuanian University of Health Sciences for the term of 5 years.

Tender requirements for the position of the dean:
1. A person taking part in the tender (hereinafter referred to as the applicant):
   1.1. must be a scientist;
1.2. have administrative and pedagogical experience in the higher education institution;
1.3. be acquainted with questions of organizing pedagogical and scientific activity, procedure of financing and legal relationships which are governed by the laws of the Republic of Lithuania, Governmental resolutions, University Statute and other legal acts.

Tender requirements for the positions of the head of the department, institute, clinic:
1. Scientists with experience of pedagogical work in higher education institutions;
2. Scientists who have a speciality related with the profile of the department (institute, clinic) or similar;

Procedure of elections to the position of the dean.
Decision of the Faculty Council concerning the most suitable applicant:
- at the Council meeting the floor is given to applicants in the alphabetical order. They brief on their life, research and pedagogical activity, present their draft plan of Faculty activity and answer the questions. If members of the Council wish, discussions take place, and members of the Council vote for the applicants to take up a position of the Faculty dean secretly. The election bulletin bears names and surnames of all the applicants in the alphabetical order;
- decision of the Faculty Council is enacted by resolution.

Procedure of elections to the position of the head of the department, institute and clinic.
In one month from the registration of the applicant’s documents in the Personnel and Social Affairs Division of the University, candidacies to the position of the Head are considered by the following authorities which secretly vote and submit their conclusions:
- meeting of the department teachers, institute teachers and scientific workers or teachers and doctors of the profile clinic, who have part-time jobs or above that in that department or clinic. A person authorized by the chairman of the Medical Council is responsible for the organization of the meeting of the teachers and doctors of the profile clinic;
- Faculty Council;
- Medical Council considers candidacies to the position of the Head of the profile or veterinary clinic.

The applicant is attested following the procedure laid down by the University if he has not been attested or was attested for the scientific-pedagogical position earlier than three years ago.

At the request of the chairman of the Faculty Council, all the documents are registered in the Book of Projects and Proposals received by the secretariat of the Senate meetings; the secretary of the Senate not later than in 7 days must transfer the documents to the Senate Attestation and Tender Commission which analyses them and submits a conclusion to the chairman of the Senate or to the Rector.

The dean, head of the department, institute, and profile clinic at the request of the Rector is elected by the Senate.

The Rector issues an order whereby the decision of the Senate is enacted in 10 working days.

The Rector, at the request of the deans, appoints Faculty vice-deans.

Administrative structures showing the Faculty in relation to the University and ministerial structure.
Parliament

The main function of the Parliament is lawmaking, including the laws related with higher education. The Parliament also plays a major role in the establishment of the amount of annual appropriations to science and studies thereby demonstrating national approach and policy towards science and studies.

Based on Law on Higher Education of the Republic of Lithuania, the Parliament, at the request of the Government, sets up state universities.
The Government

The Government, apart from its main function, which is to ensure implementation laws, regulations, rules and other regulatory acts, exercises a function of control: grants permits to institutions to carry out higher education studies, at the request of the Ministry of education and Science sets up state colleges, grants permits to Lithuanian and foreign higher education institutions intending to provide studies under study programmes of higher education institutions of other countries and to involve in other studies-related activity, directly participates in allocating budget assignations to individual higher education institutions. Functions of setting up the procedure for awarding qualifications and degrees, as well as defining the criteria like minimal qualification requirements for investigators etc, are also attributed to the role of the Government.

Ministry of Education and Science

Ministry of Education and Science is responsible for the implementation of the state policy and development priorities in the area of education and science and for co-ordination between vocational, higher education studies and scientific development.

Ministry of Education and Science has another important role to take part in the management of state higher education institutions via public representatives elected and delegated by it (via activity of the councils). Goals and objectives of the Ministry of Education and Science:

- to implement the national system of formal and non-formal education which secures social attitudes in favour of education and creates conditions for lifelong learning in a changing democratic society;
- to implement the state policy of science and studies in accordance with the Law on Science and Studies and other legal acts; to coordinate the activity of Lithuanian institutions of science and studies, etc.

In order to implement the assigned tasks, the Ministry:

- develops one-year and long-term educational investment programmes,
- approves requirements for the regulations of state-run and municipal schools;
- approves the general curriculum content of formal education, and achievement levels;
- organizes and coordinates the accreditation of the secondary education programme;
- approves the procedure of consecutive learning under general education programmes and the procedure for organization and implementation of matura exams;
- establishes, liquidates, and reorganizes vocational schools and approves general vocational education plans.

Centre for Quality Assessment in Higher Education (CQAHE) is an independent public agency established in 1995. The Centre implements the external quality assurance policy in higher education in Lithuania and contributes to the development of human resources by creation of enabling conditions for free movement of persons. The Centre was founded by the Ministry of Education and Science of the Republic of Lithuania as an expert institution (http://www.skvc.lt/en/content.asp?id=69).

The State Studies Foundation is a state budgetary institution, which administers financial support for students. The Foundation started its activities in 1993 when the Government of the Republic of Lithuania established the Lithuanian State Science and Studies Foundation, whose primary function was to administer support for the projects of groups of scientists. During fifteen years the Foundation has expanded its functions and has become a major institution administering public funds allocated for science; in 1998 it began to issue student loans. From the 1st January 2010 the Foundation operates under new name and regulations.

Implementing the science and higher education policies, ensuring accessibility and quality of higher education, and managing the financial support for students the State Studies Foundation exercises the following functions:

- Administers State loans and State-supported loans to students;
- Administers grants to students of the third level of studies in accordance with the procedure prescribed by the Board of the Foundation;
- Administers social grants to students of schools of higher education studying at the first, second or continuous study levels;
- Administer the repayment of all or part of the State funds allocated to cover the cost of studies of State-funded students to the State Budget when, in the cases and in accordance with the procedure prescribed by the Government of the Republic of Lithuania, State-funded students who are expelled from a school of higher education or terminate their studies must return the said funds to the State Budget;
- Administers reimbursement of a part of the cost of studies paid over a respective period of studies (which may not exceed the normative cost of studies), in accordance with the procedure and amount set by the Government of the Republic of Lithuania, for a part of non-funded students of the first-level or continuous studies who have the best performance record after the first two years (in the event of extended studies - after completing a half of the study programme) and after the remaining years of studies;
- Administers the granting of State support for the studies of children and grandchildren of expatriates and foreigners of Lithuanian descent at Lithuanian schools of higher education in accordance with the procedure prescribed by the Ministry of Education and Science;
- Implements the other measures assigned by the Minister of Education and Science in order to ensure quality and accessibility of higher education.

The Research Council of Lithuania is a counsellor of the Lithuanian Parliament and the Government on research and researchers training issues. It advises on the formulation and implementation of science, education and R&D policy. The Council also takes active part in program based competitive R&D funding, as well as promotes the development of Lithuanian researcher resources, fosters research activities of science and higher education institutions, and raises the prestige of science.

STRUCTURE OF THE LITHUANIAN UNIVERSITY OF HEALTH SCIENCES

**Governance bodies**

1. Senate  
2. University’s Council  
3. Rector

**General departments of University**

4. Rector’s Office  
5. Accounting and Accountability Service  
6. Civil Safety Service  
7. Occupational Safety and Health Service  
8. Service of Document Management  
10. Legal Service  
11. Personnel Service  
12. University’s Pharmacy  
13. Service of Internal Audit  
14. Bookshop  
15. Publishing House  
16. Center of International Relations and Studies
17. Agency of Accommodation Services  
18. Service of Building Maintenance and Repair  
19. Development Service  
20. Building and Investment Service  
21. Service of Property Management  
22. Service of Procurements  
23. Scientific Center  
24. Center of Studies  
25. Cultural Center  
26. Center of Information Technologies  
27. Library and Information Center  
28. Center of Remote Studies  
29. Carrier Center  
30. Center of Postgraduate Studies  
31. Kaunas Regional Ethical Committee of Biomedical Researches  
32. Student Union*  

ACADEMY OF MEDICINE

FACULTY OF MEDICINE  
Dean’s Office

Departments:
1. Biochemistry:  
   1.1. Laboratory of Medical Chemistry  
   1.2. Laboratory of Biochemistry  
2. Extreme Medicine  
3. Physics, Mathematics and Biophysics  
4. Histology and Embryology  
5. Languages and Education  
6. Microbiology  

Institutes:
1. Institute of Anatomy:  
   1.1. Museum of Anatomy  
   1.2. Laboratory of Anatomic Preparations  
   1.3. Laboratory of electronic Microscopy  
   1.4. Laboratory of Neuromorphology  
2. Research Institute of Digestive System:  
   2.1. Laboratory of Surgical Gastroenterology  
   2.2. Laboratory of Clinical and Molecular Gastroenterology  
3. Institute of Physiology and Pharmacology:  
   3.1. Laboratory of Physiological and Pharmacological Researches  
4. Institute of Oncology:  
   4.1. Clinic of Oncology and Hematology  
   4.2. Laboratory of the Science of Oncology  

Clinics:
1. Clinic of Eye Diseases  
2. Clinic of Obstetrics and Gynecology  
3. Clinic of Anesthesiology  
4. Clinic of Ear, Nose and Throat Diseases  
5. Clinic of General Surgery  
6. Clinic of Surgery  
7. Clinic of Endocrinology  
8. Clinic of Gastroenterology  
9. Clinic of Infectious Diseases  
10. Clinic of Intensive Care
11. Clinic of Cardiology
12. Clinic of Laboratory Medicine
13. Clinic of Nephrology
14. Clinic of Neonatology
15. Clinic of Neurosurgery
16. Clinic of Neurology
17. Clinic of Dermal and Venereal Diseases
18. Clinic of Orthopedics Traumatology
19. Clinic of Pathological Anatomy
20. Clinic of Plastic and Reconstructive Surgery
21. Clinic of Psychiatrics
22. Clinic of Pulmonology and Immunology:
   22.1. Laboratory of Pulmonology
23. Clinic of Radiology
24. Clinic of Rheumatology
25. Clinic of Family Medicine
26. Clinic of Cardiac, Thoracic and Vascular Surgery
27. Clinic of Urology
28. Clinic of Children Surgery
29. Clinic of Children Diseases
30. Clinic of Internal Diseases

FACULTY OF ODONTOLOGY
Dean’s Office
Clincs:
   1. Clinic of Oral Hygiene and Children Odontology
   2. Clinic of Dental and Oral Diseases
   3. Clinic of Dental and Maxillary Orthopedics:
      3.1. Training Laboratory
   4. Clinic of Orthodontics
   5. Clinic of Facial and Maxillary Surgery

FACULTY OF PHARMACY
Dean’s Office
Departments:
   1. Department of Analytical and Toxicological Chemistry
   2. Department of Pharmacognosy
   3. Department of Clinical Pharmacy
   4. Department of Drug Chemistry
   5. Department of Drug Technology and Social Pharmacy

FACULTY OF PUBLIC HEALTH
Dean’s Office
Departments:
   1. Department of Environmental and Occupational Medicine
   2. Department of Health Management
   3. Department of Preventive Medicine
   4. Department of Social Sciences and Humanities
Institute:
   1. Institute of Health Researches:
      1.1. Laboratory of Prophylaxis of Chronic Diseases;
      1.2. Health Laboratory of Children and Young Persons;
      1.3. Research Laboratory of Health System.

FACULTY OF NURSING
Dean’s Office

Departments:
1. Department of Kinesiology and Sport Medicine:
   1.1. “Sport Center”
2. Department of Nursing and Care

Clinics:
1. Clinic of Rehabilitation
2. Clinic of Geriatrics

INSTITUTE OF ENDOCRINOLOGY
1. Administration
2. Laboratories:
   2.1. Diabetes
   2.2. General Endocrinology

INSTITUTE OF CARDIOLOGY
1. Administration
2. Laboratories:
   2.1. Membrane Biophysics
   2.2. Cellular Culture
   2.3. Molecular Cardiology
   2.4. Automation of Cardiologic Tests
   2.5. Tests of Populations
   2.6. Cardiac pathology
   2.7. Clinical Cardiology
   2.8. Intensive Care and Tests of Blood Circulation
   2.9. Electric Physiology
3. Department of general Affairs

INSTITUTE OF NEUROSCIENCES
1. Administration
2. Laboratories:
   2.1. Biochemistry
   2.2. Biophysics and Bioinformatics
   2.3. Clinical Researches
   2.4. Molecular Neurobiology
   2.5. Neurophysiology
   2.6. Neurooncology and Genetics
   2.7. Neurotoxicology
   2.8. Ophthalmology
3. Group of Services and Economy

INSTITUTE OF PSYCHOPHYSIOLOGY AND REHABILITATION
1. Administration
2. Department of Information Technologies and Public Health (shortened name of the department – ITVSD)
3. Department of Clinical Physiology (shortened name of the department – KFD)
4. Department of Psychosomatic Researches (shortened name of the department – PTD)
5. Department of Cardiovascular Rehabilitation and Prophylaxis (shortened name of the department – KRPD)
6. Clinic

MUSEUM OF HISTORY OF LITHUANIAN MEDICINE AND PHARMACY
ACADEMY OF VETERINARY

FACULTY OF ANIMAL HUSBANDRY TECHNOLOGY
Dean’s Office
Departments:
1. Department of Animal Breeding
   1.1. Laboratory of Researches and Selection of Breeding Value of Animals.
2. Department of Animal Nutrition
   2.1. Research Laboratory of Animal Nutritiology.
   2.2. Sector of Systemic Assessment of Nutrigenomics and Animal Husbandry Processes.
3. Department of Animal Husbandry
   3.1. Assessment Laboratory of Animal Fleshy Features and Meat’s Quality
   3.2. Laboratory of Bird Feed and Avicultural Products
   3.3. Milking Training Center of Josifas Tacas

Institute:
1. Institute of Biological Systems and Genetic Tests
   1.1. Laboratory of Vision’s Neurophysiology
   1.2. Laboratory of Animal Genetics of Dr. K. Janusauskas

FACULTY OF VETERINARY
Dean’s Office
Departments:
1. Department of Anatomy and Physiology
   1.1. Center of Digestive Physiology and Pathology
   1.2. Laboratory of Immunology
2. Department of Infectious Diseases
   2.1. Center of Pathology
   2.2. Laboratory of Histopathological Tests
3. Department of non-Infectious Diseases
   3.1. Laboratory of Animal Reproduction
   3.2. Laboratory of Experimental and Clinical Pharmacology
4. Department of Food Safety and Quality
   4.1. Laboratory of Research of Animal Welfare
   4.2. Laboratory of Safety and Quality Tests of Animal-Based Food Raw Materials.

Clinics:
1. Clinic of Large Animals
2. Clinic of Small Animals of Dr. L. Kriauceliunas

INSTITUTE OF VETERINARY
1. Administration
2. Laboratories:
   2.1. Laboratory of Virology
   2.2. Microbiological Laboratory
   2.3. Laboratory of Parasitology

INSTITUTE OF ANIMAL SCIENCE
1. Administration
2. Departments:
   2.1. Animal Nutrition and Feedstuffs:
      2.1.1. Laboratory of Animal Nutrient Digestibility
      2.1.2. Laboratory of Feed Production and Feeding Technology Assessment
   2.2. Animal Breeding and Genetics:
      2.2.1. Laboratory of Animal Genetic Resources Research and Conservation ex situ
   2.3. Ecology
2.4. Animal Reproduction
2.5. Research Development and Farm Management
3. Analytical Laboratory
4. National Coordinating Center for Conservation of Farm Animal Genetic Resources
5. Technical Service

MUSEUM OF THE VETERINARY ACADEMY

CENTER OF CONTINUOUS TEACHING AND CONSULTATION OF VETERINARY

VIVARIUM

STUDENT UNION

The Student Union is a separate legal entity, which legal form is association and which acts in accordance with the Statute of the Lithuanian University of Health Sciences.
Structure of Veterinary Faculty

Faculty Council
Commission of Study and Research

Deanery
Dean, vice-dean

Committee of Study Programme (SPC)

Departments and research centers and laboratories

- Center of Digestive Physiology and Pathology
  - Laboratory of Immunology
- Center of Pathology
  - Laboratory of Histopathological Test
- Laboratory of Animal Reproduction
  - Laboratory of Experimental and Clinical Pharmacology
- Laboratory of Research of Animal Welfare
  - Laboratory of Safety and Quality Test of Animal-Based Food Raw Materials

Anatomy and Physiology

Infectious Diseases

Non-infectious Diseases

Food Safety and Quality

Clinics

- dr. L. Kriauceliunas Small Animals Clinic
- Large Animals Clinic

Figure 2.2: Diagram of internal administrative structure of the Faculty
Responsibilities, constitution and function of the main administrative bodies (councils, committees).

Activity of the Faculty is lead by the Faculty Council and the Dean. Activity of the Faculty Council and Dean is governed by the Faculty regulations approved by the Senate. Faculty Council is a self-governing institution.

Faculty Council:
1) discusses study plans and programmes and submits them for the approval of the Senate;
2) evaluates results of the Faculty’s scientific research taking into account conclusions of the experts;
3) considers candidacies for the positions of the faculty dean, head of the institute, clinic, and department and submits conclusions to the Rector and Senate.
4) for the term of five years elects heads of research laboratories that belong to the structure of the Faculty;
5) establishes functions of pro-deans;
6) submits proposals to the Senate regarding awarding of the University title of honour and other titles;
7) submits proposals to the Senate regarding improvement, restructuring of the activity of the Faculty;
8) considers income and cost estimate of the Faculty.

To fulfil the will of the Faculty the Dean:
1) represents the Faculty;
2) admits employees to the Faculty and decisions mandatory for students and associated students;
3) submits proposals to the Rector regarding admission and removal of students and associated students to/from the University;
4) submits proposals to the Rector regarding employment, dismissal of employees to/from the Faculty, granting of promotions or imposition of penalties to employees and students, liquidation of academic debts;
5) organizes scientific, pedagogical and another activity of the Faculty;
6) each year reports to the Faculty Council for the activity of the Faculty.

Members to the Faculty Council are elected by the meeting of the teachers of the Faculty. Representatives of the students are delegated by the Student Representation. The number of the members of the Council is set by the Senate. Council of the Veterinary Faculty is formed of 15 members of whom 3 are students and 1 social partner. The Dean of the Faculty is a member of the Faculty Council by his duties. The dean of the Faculty may not be a chairman of the Council. The term of the Faculty Council is 5 years. The Faculty Council includes a Commission for Studies and Research made of 7 members.

Study Programme Committee (SPC)

In order to improve the content and implementation of the study programme and to ensure a lasting quality of the studies and monitoring over it, a Committee of Veterinary Medicine Study Programme has been established (hereinafter SPC) by the Lithuanian Veterinary Academy (now Veterinary Academy of LUHS), Senate protocol No 05-02-02; 17/10/2007). Activity of the SPC is one of the most important composite parts ensuring the quality of the study programme. The composition of the SPC was approved by the Senate considering the proposal of the Studies Commission. SPC proposals regarding the quality of the Veterinary Medicine studies are considered and approved by the Studies Commission. SPC continually supervises the content of the study programme and the quality of the studies. It is set up that every 3-4 years this Committee...
must carry out self-assessment of the study programme according to the requirements similar to those set by SQAHE for the external assessment of the study programmes in Lithuania.

SPC work is managed by the co-ordinator of the study programme. SPC members of the Veterinary Medicine Programme are: co-ordinator of the study programme – committee chairman Prof. Dr. Jūratė Šiugždaitė, Department of Infectious Diseases); Vice-dean of the Veterinary Faculty, Prof. Vaidas Oberauskas; representatives of the profiling department of the study programme: Assoc. Prof. Gintaras Zamokas (Department of Non-Infectious Diseases), Assoc. Prof. Dr. Alius Pockevičius; two students' representatives; an external social partner – Vidmantas Paulauskas, deputy director of the SFVS.

The main task in the activity of the co-ordinator is a regular care over the quality of the co-ordinated study programme. Its functions are: running of SPC activity; managing a self-analysis group of the study programme; analysing analogous study programmes in Lithuania and abroad; organizing constant improvement of this study programme while seeking to make it compatible with the requirements of the identical EU programmes; etc.

Students (2) included in the SPC are responsible for: a) timely provision of student opinion and comments on the study programme for the attention of the SPC; b) submission of the proposals reflecting student opinion in order to improve the quality of the programme.

An external social partner is responsible for: a) provision of external information on the programme to the members of the SPC; b) provision of comments and proposals to improve the implementation and quality of the studies taking into account experience and opinion of social partners. An external social partner Vidmantas Paulauskas, member of SPC, has been selected from SFVS, the only institution which holds required qualification and experience necessary to improve the quality and implementation of the programme (the description of the SFVS is presented at the bottom of page 3). Experience of the members of the SPC allows thorough understanding of the matters and contemporary requirements. A co-ordinator, while working with colleagues of the Department teaching nearly one third of all the subjects of the programme, can get thorough understanding of the peculiarities during the implementation of the programme. The Vice-Dean, as a member of the SPC, provides information on the implementation of the programme, topicalities and prospects more from the administrative point of view. Involvement of the two members from other departments allows receiving and evaluating information from a broader part of the participants involved in the implementation of the programme. Involvement of the two students allows finding out student opinion on the programme, shortcomings and strong sides indicated by the students and this also involves them in the activity intended to improve the quality of the programme. An external social partner, as a potential employer and practice base, reflects the opinion expressed on the programme by other participants of the market (state agencies and food enterprises) related to the process of studies. Proposals and comments submitted by it help improve the quality of the programme, and this programme is becoming more and more attractive to business and food industry.

SPC proposals are later analysed by the Faculty Council which is a collective body approved by the University Senate.

The SPC, no less than once in a semester, conducts meetings invited and chaired by the SPC chairman or, in his absence, by another SPC member proposed by the chairman. The meeting is valid when at least 2/3 of its members take part in it.

Decisions at the SPC meetings are taken (by secret or open voting) when more than half of the members participating in the meeting vote for the decision (secret voting takes place if required by at least one SPC member at the meeting). In case of the equal number of votes, the decision is taken by the chairman of the meeting. The SPC, prior to taking decisions, notifies and consults respective social partners (i.e., notifies in writing the departments and receives their comments). SPC refers the decisions to the Council of the Veterinary Faculty, departments etc. Teachers and students, who disagree with SPC proposals or decisions, may submit their proposals or requests to
the Studies Commission or to the Council of the Veterinary Faculty. SPC proposals regarding improvement of the programme are also submitted by the Student Representation. Each year, the co-ordinator presents to the meeting his report. In case of the negative evaluation of the co-ordinator's work for the last calendar year, the Studies Commission proposes to appoint another co-ordinator.

2.2 COMMENTS

Activity of the faculty of LUHS is managed by the Faculty Council and Dean. Resolutions adopted by the Faculty Council are mandatory to the staff and students of the Faculty. The Dean, while executing the requirements of the LUHS Statute and the will of the Faculty Council, manages the Faculty and each year reports to the Faculty Council for the Faculty's activity. By duties the Dean is a member of the Faculty Council and Rectorate.

2.3 SUGGESTIONS

Optimization of the structural parts of the University should be continued. Existing material base of the University must be used better for different needs of the Faculty.
To create and implement effective policy for the management of human resources.
To create, update and introduce advanced electronic systems for the management of information technologies.
To encourage creation of identity and awareness of the University and Faculty.

CHAPTER 3. FINANCES

3.1 FACTUAL INFORMATION

3.1.1 GENERAL INFORMATION

Before presenting the information about finances, the structural changes that took place in the last four years (2008-2011) required to be covered in self-assessment should be explained.

Before September 1 of 2010, the Faculty of Veterinary was one of the two faculties (the other being the Faculty of animal husbandry) of the free-standing Lithuanian Veterinary Academy.

In 2010, two higher schools – the Lithuanian Veterinary Academy (LVA) and Kaunas University of Medicine (KUM) were incorporated into a new higher school the Lithuanian University of Health Sciences (LUHS). According to the statute of the University, it is composed of two large divisions: Medical Academy and Veterinary Academy. The act of incorporation was freewill and approved by the Senates and Councils of the both academies. In 2008–2009, the finances covered in the self-assessment were administered in conformity with the requirements of the then LVA. Since 2010, the allocations have been granted to the new LUHS where they are redistributed among the structural divisions. The strategy of the LUHS provides for the reconstruction of buildings and concentration of administrative divisions in one building. At present, the Veterinary Academy houses the central university accounting department.

The general financing model covered in the self-assessment requires further explanation.

Before 2009, the quotas of the number of students to be admitted to different study programs were established for the LVA as for all higher schools of Lithuania. By an ad hoc order of the Ministry of Education, all specialties were grouped and evaluated and the so called study price for one student was established.
In 2009, the financial support model changed in the essence. This model includes the so-called study basket (state supported student’s vacancy) and its free movement. Every year, the appropriations of the state budget allocated to higher education (at present 11 study programs) are distributed by the Ministry of Education and Science among higher schools in the form of study baskets. The prices of study baskets within every study program are approved based on university offering. The Ministry of Education and Science establishes study prices within different programs which universities have a right to reduce but cannot rise. Universities also can admit self-support students. In 2008–2010, in terms of financing two flows of students were admitted, i.e. students admitted in 2008 following the quotas and students admitted in 2009 within the new system of study baskets.

Financing of students within the program of Veterinary medicine (VM) studies (the present state code 601D20001; the previous state code 60112B101; 336 ECTS credits) is based on admission into targeted support studies following Order No V-2487 of December 20, 2011, of the Minister of Education “On targeted state support of study programmes”.

In 2008, the price of VM study program was 4435 Lt (1284 Euro) including 40% designed for remuneration of teachers and 15% allocated for salaries of the operating personnel. In 2009, the price of the VM study program already was 9478 Lt (2745 Euro) including 43% and 8% designed for remuneration of teachers and operating personnel respectively. In 2010 and 2011, the price of the 1st to 4th years of VM study program was 9137 Lt (2646 Euro) - (including 42% and 8% of budget designed for teachers’ and operating personnel’s salaries). The price for the 5th to 6th years studies was even higher, i.e. it equalled to 12553 Lt (3635 Euro). The annual price of VM studies for persons willing to study on self-support basis established by the LUHS is 9137 Lt (2646 Euro) for the 1st–4th years and 12553 Lt (3635 Euro) for the 5th–6th years. Every year, reporting the rules for admission to the Ministry of Education and Science, the University may lower the prices but cannot raise them above the level established by the Ministry of Education and Science. A person applying for admission to state-supported studies takes part in the general admission process and pays the registration fee of 120 Lt established by the LUHS Senate.

Since 2011, the salaries to departments have been allocated following the method approved by the LUHS Senate. The number of teachers hired and distribution of the salaries within departments are at the competence of the head of each department.

The main sources of income in the Veterinary Academy of LUHS are:
1. Gain from the study baskets.
2. Gain from the fees paid by self-support students.
3. Revenue from services (clinical work, laboratory tests, consultations, etc.).
4. Scientific projects (local and international).
5. Projects of post-graduate studies.
6. EU allocation for infrastructure and science development.
7. Targeted state support for development of concrete objects or activities.

The budget is distributed in the following way:
1. Every year, depending on the income from studies, the Rector’s Council of the LUHS allocates the budget for the Veterinary Academy.
2. The salaries in departments are established following the approved method. They depend on the number of studied subjects and their scope in credits and on the number of students.
3. The income from the scientific projects goes to departments directly. Depending on the character of contracts, a certain per cent from the total cost of the project (usually up to 15%) are used for covering the rates (electricity, water supply, heating, administration, etc.).
4. The income from different laboratory tests and consultations and donations remain in the departments and are used for their development. The clinics of small and big animals and the dispensary which offer clinical services have the whole income at their disposal. Taxes are not imposed by the VA to the income for the described services.
5. Other allocations necessary for studies are assigned every quarter of the year meeting the requirements of every department.

6. The means for repairs of departments and furniture are assigned from the centralized VA budget of the current year.

7. The rates for cleaning of all VA buildings, heating, electricity and water supply are covered from the consolidated VA budget.

8. All lecturers of VA have a right to apply to the consolidated LUHS science fund for support of research activity.

Fill-in

1. In 2009, the VA received 30.3 million Lt from the EU funds for development of science, studies and business centres. The support was granted to development of the integrated science, studies and business centre “Nemunas” and to the VA project “Development of animal health and nutrition and the infrastructure of science and studies of animal raw stuff; consolidation of scientific potential”.

2. After the integration of LVA and University of Medicine into the new LUHS, 50 million Lt were recovered from the project “Renovation of the study infrastructure and basic equipment necessary for development of the Lithuanian University of Health Sciences” (the VA received 21.4 million Lt).

3.1.2 INFORMATION ON EXTRA INCOME

Table 3.1 contains the income data for 4 years. The data about the means for consolidation of the financial basis of VA for each year of self-assessment are generalized as extra income and presented in a separate line under Table 3.1.

The buildings used for VM program studies were renovated using the means from different projects: investment project of 2007–2008 “Equipment of pathological histology laboratory at the department of pathology dissection and research” (1.51 million Lt), investment project of 2007–2009 “Reconstruction of the premises of the Department of Infectious Diseases for movement of the Veterinary Institute of LVA into the VA territory in Kaunas, Tilžės Str. 18” (5.25 million Lt), programme of 2009 “Repair of the sports basis of the Department of Physical Culture” (8.4 thousand Lt), programme of 2009–2010 “Renovation of the higher school students hostels” (748.0 thousand Lt), programme of 2010 “Modernization of the central heating” (2.816 million Lt).

In 2011–2012, the income from the “Nemunas” valley project “Development of animal health and nutrition and the infrastructure of science and studies of animal raw stuff; consolidation of scientific potential” (the total of 30.3 million Lt) was used for renovation of the buildings and equipment in the VA Anatomicum, Department of Biochemistry, Big Animal Clinic, Department of Animal Nutrition, and scientific laboratories at the Faculty of Veterinary. In 2008, teaching aids were obtained and 42 working places for students modernized for 182.0 thousand Lt. In 2008, investment project “New equipment for renovation of practical training and technological process of stockbreeding and forage production (1.5 million Lt). In 2010–2011, for completion of renovation of the Department of Infectious Diseases 5 mln Lt were used from the new university integration project “Renovation of the studies infrastructure and basic equipment for development of LUHS”. This project was started in 2010 and is due to be finished in 2013. It will substantially improve the material basis. Some of the income from the project was used for renovation of the Department of Infectious Diseases (classrooms, teachers’ rooms) where renewed laboratories of microbiology, parasitology and virusology are basing. Vivarium is due to be renovated and acute experiment centre, laboratory of the Department of Food Safety, classroom for clinical purposes and other rooms designed for studies will be equipped.

In 2011, five foreign students were admitted to VM study program. The price of their studies is 20717.00 Lt.
The extra income gained by divisions of the Faculty of Veterinary is distributed in the following way:

I. The income from different laboratory tests and consultations and donations remain in the departments and are used for their development. The clinics of small and big animals and the dispensary which offer clinical services have the whole income at their disposal. Taxes are not imposed by the VA to the income for the described services.

II. From the income gained from local and international scientific projects a certain percentage goes for covering the administrative and utility expenditures (usually up to 15%).

III. Only costs of rates and building rental are stopped from the income earned by other activities (e.g. post-graduate studies) taking place in the academy premises.

3.1.3 OVERVIEW INCOME (REVENUE) AND EXPENDITURE

Table 3.1: Income (thousand Lt)

<table>
<thead>
<tr>
<th>Year</th>
<th>State (government)</th>
<th>Direct to Faculty</th>
<th>Income Generated Faculty</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To university administered outside the faculty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011*</td>
<td>7295.9</td>
<td>6169.4</td>
<td>2760.5</td>
<td>19695.1</td>
</tr>
<tr>
<td>2010</td>
<td>3391.4</td>
<td>5698.6</td>
<td>2588.8</td>
<td>13678.8</td>
</tr>
<tr>
<td>2009</td>
<td>1023.2</td>
<td>5409.8</td>
<td>2872.4</td>
<td>12888.6</td>
</tr>
<tr>
<td>2008</td>
<td>1383.9</td>
<td>6542.6</td>
<td>1719.9</td>
<td>14081.9</td>
</tr>
</tbody>
</table>

* year prior to visitation

The extra income for renovation of buildings earned in 4 years from different sources to show a great improvement the total income from outside.

In general, the data given in Table 3.1 lead to a conclusion that since 2008 until 2011 the state support of the Academy and Faculty of Veterinary increased by 81% whereas the income from services provided remained within certain limits. The income from scientific activity was certain range from 4435.5 to 3126.7 thousand Lt. The total income in the Faculty was in such range 3126.7-4435.5 thousand Lt.

Table 3.2: Expenditures

<table>
<thead>
<tr>
<th>Year</th>
<th>Salaries</th>
<th>Teaching support</th>
<th>Research support</th>
<th>Clinical support</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011*</td>
<td>3487.4</td>
<td>7497.4</td>
<td>5641.1</td>
<td>468.5</td>
<td></td>
<td>17094.4</td>
</tr>
<tr>
<td>2010</td>
<td>2033.1</td>
<td>6961.0</td>
<td>2515.1</td>
<td>459.7</td>
<td></td>
<td>11968.9</td>
</tr>
<tr>
<td>2009</td>
<td>2713.4</td>
<td>6319.5</td>
<td>2592.9</td>
<td>433.9</td>
<td></td>
<td>12059.7</td>
</tr>
<tr>
<td>2008</td>
<td>2932.9</td>
<td>6649.8</td>
<td>2533.5</td>
<td>464.8</td>
<td></td>
<td>13581.0</td>
</tr>
</tbody>
</table>

* year prior to visitation

Nacional money (Litas-Lt) is bind up European money (Euro)
1 Euro - 3.45 Lt

Referring to the distribution of means, we should iterate what was said in the previous section.
Since 2009, the students entering the Lithuanian University of Health Sciences pay the so-called registration fee which equals to 120 Lt. There are two groups of students: the group budgeted by the state and the self-support group of students. Rotation depending on the report card takes place every year when the self-support students may be enrolled into the state-supported groups and vice versa.

As was already pointed out in other sections, remuneration method is common for the university. The budget is allocated to departments and is in direct disposal of their heads. The budget for building, repairs, rates and maintenance is centralized. The Academy is an autonomous division with autonomous territory and buildings. The Veterinary Faculty is its largest sub-division including the veterinary food safety program. The Academy actually is represented by one faculty (bearing in mind that the number of students at the Faculty of Animal Husbandry Technology has reduced to a critical level). After the incorporation of the two institutions, many financial issues are discussed at and decisions made by the Rector’s Council yet structural autonomy, when faculties are granted greater freedom, remains the main principle of management.

The extra income gained by divisions of the Faculty of Veterinary is distributed in the following way:

I. The income from different laboratory tests and consultations and donations remain in the departments and are used for their development. The clinics of small and big animals and the dispensary which offer clinical services have the whole income at their disposal. Taxes are not imposed by the VA to the income for the described services

II. From the income gained from local and international scientific projects a certain per cent goes for covering the administrative and utility expenditures (usually up to 15%).

III. Only costs of rates and building rental are stopped from the income earned by other activities (e.g. post-graduate studies) taking place in the academy premises.

3.2 COMMENTS

The financial status of the Veterinary Academy, part of LUHS, depends on many factors: the actual national policy in the fields of science and studies, financial support model for students, number of students in study programs, qualification of the teaching and research staff, number of scientific projects and other factors. Three years ago, a new law on science and studies was adopted and financial support model based on the study basket was introduced.

In the last three years, the changes in the number of students in the veterinary medicine study program were minor. The activity of the teaching staff of the Academy and its administration brought good results. In the last 10 years, the study and research basis was markedly improved using the financial resources gained from the EU “Nemunas” project (in the last 4 years) and the integrated resources allotted for incorporation of LVA and KUM.

On the other hand, the buildings of the Academy housing the study basis occupy 33000 m². The increasing prices for electricity, heating and other utilities increase the expenditures. After the incorporation of LVA and KUM, efforts are put to use the classrooms and laboratories as effectively as possible to reduce the rates.

For a long time, the state support for higher education was rather poor in Lithuania. Therefore, the modernization of study and research equipments and reconstruction of buildings was a real challenge. However the process gains momentum.

Clinical work is a very important stage in training students. Like in many European veterinary schools, LUHS-VA encounter certain problems. The Academy has a practical training and experimental basis where clinical work with big animals takes place. Right at the moment, the EU has allotted means for a new cattle farm designed for 200 individuals. The financial support for building the centre for breed assessment is in the final stage of consideration. The centre is expected
to have room for keeping a wider spectrum of animals (horses, sheep, pigs, and cattle), clinic, and hall for examination of animals and exhibitions. The students of the Academy participate in the clinical activities, i.e. they visit the places where animals are kept (private farms, larger companies, individual farms). The students also visit slaughter-houses and other places where they can develop practical skills. These trips are rather expensive but practical skills are of priority importance. A sufficient number of vehicles for students transportation has been purchased (one large bus with 28 seats, two minibuses with 14 seat each and two minibuses with 8 seats each).

The research work, carried out by students, and preparation of final papers require considerably larger allocations.

In general, since 2008 until 2011, the total income from different sources including the structural funds of the EU has increased to 5912 thousand Lt or by 81 %. The larger part of these allocations is represented by investments into the renovation of buildings. The salary dynamics is given in Table 3.2. Comparison of the last two years showed that salaries markedly increased: from 2033.1 Lt to 3487.1 Lt or by 41.6 %. This can be accounted for by the new remuneration order. Yet it should be pointed out that the new remuneration system is not well balanced because it emphasizes the study process alone. The teaching support also increased in 2011 in comparison with 2010: by 7.1 %. The support for research work increased by 54.7 % and the support for clinical work remained on the same level. The total income has been gradually increasing during the whole period of self-assessment (2008–2011; Table 3.1).

After the incorporation of the two institutions, the autonomy of the faculty has been increasing. A year ago (2010), the competence of distribution of salaries was transferred to the heads of departments (on agreement with the staff). The means earned by the staff of departments and affiliated laboratories (for laboratory tests, consultations, support and other activities) are distributed by heads of departments on agreement with the staff members. The means earned by the clinics of small and big animals also remain in these sub-divisions. The income is distributed by the sub-divisions. The supply services and rates are managed on a centralized basis. Depending on the financial status, the distribution of allocations designed for studies will be transferred to deans of faculties (next year).

3.3 SUGESTIONS

In general the trend of processes taking place at the Veterinary Academy are favourable: the financial basis improves, as also the conditions for studies and research, the buildings are reconstructed and modernized, salaries grow, the organization of clinical work becomes more effective, etc.

There are some fields of activity which should be improved.

The staff members should be encouraged to participate at qualification extension courses in modern foreign clinics, laboratories and institutes. So far, the allocations for qualification extension are insufficient. The system of promotion for active participation in development of new study programs and for extensive scientific research should be improved. The number of students in groups should be reduced. The number of contact hours for lecturers also should be reduced. New modern equipments and computer devices for practical training are still lacking. The financial support of students for master degree is insufficient as is support designed for preparation of final papers. So far, the model for financing the process of studies is not altogether clear. The pedagogical load should be reduced and possibilities to hire visiting lecturers should be strengthened. The solution of these issues largely depends on the total financial support for the Academy.
CHAPTER 4. CURRICULUM

4.1 FACTUAL INFORMATION

The Centre for Quality Assessment in Higher Education (SKVC) (www.skvc.lt) assesses and accredits the study programmes of higher schools in the Republic of Lithuania following the rendering of higher schools. It is authorized by the Ministry of Education and Science. The programme of veterinary medicine was assessed by external experts in 2011 and accredited until 30 June 2017. The Veterinary medicine programme in Lithuania is implemented only in the LUHS VA.

The objective of the integrated Veterinary Medicine (VM) Study Programme is to develop doctor of veterinary medicine (qualification degree - master of veterinary medicine), who would be capable to work in the private and state network of veterinary services, diagnose animal diseases, treat ailing animals, apply preventive measures, exercise control over diseases and food, investigate, convey knowledge, address complicated veterinary problems, adapt skills and knowledge in independent activity and further learning.

The objective and outcomes of the Study Programme have been developed in accordance with: Dublin Descriptors (and they have been associated to competences and qualification requirements of the trained specialists, formulated with the direct participation of social partners); higher education quality assurance provisions, Bologna process document, ECTS user’s guide, European and National Qualification Framework competences and veterinary studies regulation, Directive 2005/36EC, EAEVE, OIE and FVE recommendations and other legal acts. Programme’s objectives are in conformity with the requirements of the above-mentioned documents and they guarantee education in line with the requirements set out in the legal acts of the Republic of Lithuania and European Union for the training of veterinary surgeons and other national and international documents. The Programme conforms to the Regulation, Description of the Common Requirements, and Directive 2005/36/EC.

VM Study Programme of integrated studies will form and develop competences necessary to carry out professional activity. Upon successful graduation of the Study Programme students obtain general and special competences.

**General Professional skills and attributes**

The new veterinary graduate should be able to:

1. Communicate correctly with clients, colleagues, the lay public and competent authorities, and provide necessary information and assistance on animal disease diagnostics, treatment and prevention issues.

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2. Veterinary Medicine Studies Regulation (Official Gazette, 2006, No 12-443) and its amendments (Official Gazette, 2008-07-12, No 79-3131); Description of the Common Requirements for the First Cycle Study Programmes and Integral Study Programmes Awarding Degree (Official Gazette, 2010-04-17, No 44-2139);
2. Work in team considering interests of the patient and client following veterinary surgeon’s rules.

3. Use of professional capabilities to contribute development of the veterinary science and practice in order to improve care of animal health, animal welfare and public health considering social and economical factors.

4. Know organizational chart and functions of veterinary service, organize and manage veterinary practice effectively considering labour and tax laws, carry out records of patients and provided services and analyze and provide information by information technology means.

5. Act in a professional manner with regards to the veterinary surgeon’s professional and legal responsibilities, commit to continuing education and professional development throughout professional life and, in case of necessity, provide or recourse of professional assistance to colleagues.

**Main knowledge and understanding**

The new veterinary graduate will have acquired a thorough knowledge and understanding of the following:

1. The sciences on which the activities of the veterinary surgeon are based and also research methods and the contribution of basic and applied research to veterinary science.

2. The structure and functions of the healthy animals and their husbandry.

3. The aetiology, pathogenesis, epidemiology, clinical signs, diagnosis, treatment and prevention principles of the animal diseases including zoonoses.

4. Legislation providing requirements on animal health and animal welfare, and monitoring and control of animal infectious diseases including zoonoses, and use of veterinary medicinal products and biocides for veterinary use.

**Practical competences**

The new veterinary graduate should be able to undertake the following:

1. To obtain and analyse useful information on the course of animal illness, carry out a complete clinical examination, safely use modern diagnostic equipment and advice and prescribe appropriate treatment.

2. To carry out the first aid in case of emergency and take care of animals, and, if necessary, evaluate necessity of euthanasia and perform it humanely, using an appropriate method, whilst showing sensitivity to the feelings of attendants, and ensuring safety of those present and safe disposal of bodies of dead animals.

3. To evaluate correctly animal health, animal welfare and animal nutrition, advice the client on principles of husbandry and nutrition, and follow principles of veterinary certification.

4. To follow correct procedures after diagnosing pathogens of notifiable animal infectious diseases and zoonozes, and apply appropriate measures in order to minimize risk of contamination of premises and environment.

5. To prescribe for animal treatment only registered veterinary medicinal products ensuring that waste of veterinary medicinal products are safety stored and disposed.

6. To apply correctly principles of sterilization of the surgical equipment and instruments and aseptic surgery, and safely perform sedation, general and local anaesthesia, and assess and control pain.

7. To carry out gross post mortem examination, recording of findings, and take, store and transport samples, and perform standard laboratory tests and interpret of their results.

8. To carry out ante and post mortem inspection of food animals and correctly identify conditions affecting the safety and quality of products of animal origin.
9. To advise and design of animal health preventive and prophylactic programs for various species of animal herds (flocks) based on requirements of legal acts on animal health, animal welfare, public health and environment protection.

The objective of the Programme and outcomes of the studies are available on the Internet website www.lsmuni.lt, website of the admission commission, newspapers „Gyvulininkystės specialistas“ (Specialist in Animal Husbandry), „Ave Vita“, in flyers that advise students where to study, and in the descriptions of study subjects placed on the Internet website. Students are introduced to the objectives of the Programme through the discipline called „Studijų įvadas“ (Introduction to Studies) and before the beginning of teaching each of the subject of studies.

The volume of the Veterinary Medicine Studies is 336 ECTS, including 20 credits for practice, and 16 credits (20 credits in 2011/2012) – for the preparation and defence of the final thesis (based on 2012/2013 Veterinary Medicine Integral Studies Plan approved at the LUHS VF Council on 6 December 2011, Protocol No 06 (40)).

When the faculty renews the study programme, it may change up to 20 per cent of the study programme’s volume (regulated by the national legal acts). If the programme is changed by more than 20 per cent, it has to be rendered for new assessment and accreditation to SKVC. The contents of study programme and subjects are analyzed and evaluated by the Coordination Committee of Veterinary medicine programme. It makes suggestions and recommendations to the council and dean of the Veterinary Faculty. The renewal of the subject’s contents may be initiated by the department/division or social partners.

Veterinary Medicine Study Programme Committee (established following Rector’s Order 17-10-2007; No 05-02-02) regularly assesses subjects and modules of the Study Programme in order to ensure the quality of studies. Special focus is dedicated to avoid overlapping of the themes of subjects and modules in the Programme By this it is ensured that change or correction of subjects or subject themes do not overlap and improve quality of studied subjects for students.

Structure of the Programme, content of subjects and distribution in semesters have been changing significantly over the last 7 years; adequate interactive methods of studies (interactive lectures, seminars and discussions, different presentations, group tasks, case analyses, simulations or role play) have been introduced to achieve learning outcomes, as well as problem and project learning methods, independent work tasks, diversity of methods and sufficient time for the consultations of students.

The volume of contact work is determined by higher school following the Description of continuous and extended study form3 and Regulation of study field of Veterinary medicine.

Graduates of integral studies lasting 5.5 years are awarded with a qualification of the veterinary surgeon and master’s qualification degree.

4.1.1 POWER OF SUBJECTS AND TYPES OF TRAINING

4.1.1.1 POWER OF SUBJECTS

According to the national requirements, the subjects of study programme of Veterinary Medicine (appendix 1) are divided into the subjects/modules of general education and study field. Twenty two ECTS are designated for the part of general education (obligatory subjects – Introduction to Education and Information Technology; Analytical Chemistry; Professional language; Philosophy; Foreign Language for Specific Purposes; Agricultural Economics and Management), or 7 percent of total volume of the programme. The 1st-4th year students can also

3 Description of continuous and extended study form. No. ISAK-1026 approved by the Minister of Education and Science on 15 May 2009.
select elective subjects (3 ECTS each) belonging to the part of general education. It has been proposed in the EAEVE recommendations not to leave the subjects which are not associated with veterinary medicine (philosophy, Latin, foreign language, Lithuanian language culture and etc) in the list of compulsory subjects, but rather transfer them to elective subjects. However these subjects have not been removed from the list of compulsory subjects, because otherwise the Veterinary Medicine study programme would fail to meet the nationals requirements for the teaching of general university subjects. Notwithstanding the content and titles of these subjects have been modified to fulfil needs of future specialists.

The study field/speciality part cover 296 ECTS (88% of the entire volume). This part contains 28 compulsory subjects (250 ECTS; 74% of the entire volume), practise – 20 ECTS, Formation of Professional Skills – 12 ECTS, preparation of the final thesis – 16 ECTS (Table 4.2). Practice is divided into 3 parts: course IV (3 ECTS) – Laboratory practice; course V – food hygiene practice (2 ECTS) as part of the Food Hygiene module; course VI – clinical practise (15 ECTS).

During the study period students have to choose freely elected subjects to amount at least 18 ECTSf. Students select from general education subjects (18 subjects, 54 ECTS) and study field/speciality subjects (19 subjects, 57 ECTS) (Table 4.3). For freely selected study subjects it is allocated 5.4 per cent of the volume of the Study Programme (by Regulation – at least 5 per cent of the volume of the Programme).

Within one study year students study from 9 to 13 modules/subjects in the volume from 3 credits to 22 ECTS (annex 1, 2). Independent students work aggregates in average 39.5 per cent of the volume of each study subject.

Across semesters modules/subjects are distributed considering priority order of the subjects and their correlations. From the first to the third courses students study subjects which provide basic knowledge of: anatomy, physiology, genetics, biochemistry, environmental and animal hygiene, microbiology, immunology and other subjects which are in line with the veterinary medicine studies regulation. From the fourth to the sixth course students study specialty subjects: veterinary surgery, pathology, parasitology, obstetrics, epidemiology and infectious diseases, non-infectious diseases, food hygiene, forensic veterinary and etc. Due to such priority order applied to study subjects students gradually acquire knowledge and abilities from universally adapted knowledge and abilities obtained in the first courses to specific knowledge necessary for veterinary surgeons.

Vertical and horizontal integration approach of studied subjects have been taken into consideration when designing the Programme. For example, semesters 1-3 provide studies in animal anatomy, semesters 3-4 – in animal physiology, biochemistry, semester 4 – in hygiene of animal environment, semester 5 – in microbiology, immunology, semester 6 – in virology. In courses 3-6 students study subjects which require knowledge not only of the previously studied subjects but also of closely interrelated subjects studied in the same course: clinical diagnostics, veterinary pathology, non-infectious diseases, surgery, parasitology, epidemiology and infectious diseases etc.

Students start to develop practical skills from the second course (they have rotation hours in clinics). Students apply theoretical knowledge acquired from studied subjects at the time of forming practical skills at the large-animal clinic, small-animal clinic, LUHS VA Practical Training and Testing Centre, food enterprises, laboratories, research establishments, individual farms and companies.

Prior to practises students have already studied necessary subjects. For example, during laboratory practice (after course IV) students have already studied microbiology, immunology, virology, pharmacology, radiobiology, clinical diagnostics and animal nutrition. In this way students can better understand investigations that are carried out and their importance. After the fifth course students, while doing clinical practise, have already acquired knowledge in all clinical subjects. Such a sequence of distributing taught subjects considering mutual links between the subjects makes it easier for students to seek for good learning outcomes and it assures their quality.
4.1.1.2 TYPES OF TRAINING

The methods applied to teach the subjects of the Veterinary Medicine programme are the following: lectures, interactive lectures, seminars, laboratory works, practical training, discussions, various presentations, group tasks, analysis of clinical cases, and simulations, which are adequate to achieve the set study goals. The variety of tasks of independent work and methods is suggested for the subjects, and enough time is provided for the consultation of students. The practical training of clinical subjects is conducted in the clinics of large and small animals.

In order to assess the study process, achieved objectives and acquired competences, various assessment methods are used: oral and written tests, presentation of projects, and filling of achievement daybooks during the formation of practical skills. The exams are conducted in written form by answering short or wide subject-related questions. Some subjects are assessed by tests. The students ends the study programme by defending the graduation work (final thesis), which is being prepared by the students starting with the 8th semester.

4.1.2 UNDERGRADUATE CURRICULUM FOLLOWED BY ALL STUDENTS

4.1.2.1 CURRICULUM HOURS

The study programme of veterinary medicine covers 336 ECTS, which makes 8960 h. (Table 4.1). The volume of the 1st-5th year is 60 ECTS, the 6th year – 36 ECTS (annex 1). The self-directed learning makes 39.5 percent of the total volume of studies.

Programme has been selected taking into account knowledge and abilities that must be gained by a student. Subjects of the part of general education develop world-view and general erudition. Subjects of basic studies form the core of the studies in acquiring adequate knowledge and abilities to obtain higher education qualification. Subjects of the special part form special skills and knowledge necessary for future veterinarians (treatment and prevention of animal diseases, control of zoonoses, food hygiene and control etc). Practical skills and abilities acquired in the course of studies are reinforced when students perform the practise.

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Lectures (A)</th>
<th>Seminars (B)</th>
<th>Self-directed learning (C)</th>
<th>Laboratory and desk based work (D)</th>
<th>Non-clinical animal work (E)</th>
<th>Clinical work (F)</th>
<th>Other (G)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>313</td>
<td>34</td>
<td>676</td>
<td>577</td>
<td></td>
<td></td>
<td></td>
<td>1600</td>
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<tr>
<td>Second</td>
<td>387</td>
<td>16</td>
<td>624</td>
<td>493</td>
<td>80</td>
<td></td>
<td></td>
<td>1600</td>
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<tr>
<td>Third</td>
<td>375</td>
<td>18</td>
<td>536</td>
<td>472</td>
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<td>Fourth</td>
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<td>147</td>
<td>198</td>
<td>274</td>
<td></td>
<td>1600</td>
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<tr>
<td>Fifth</td>
<td>287</td>
<td>39</td>
<td>695</td>
<td>178</td>
<td>134</td>
<td>267</td>
<td></td>
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</tr>
<tr>
<td>Sixth</td>
<td>84</td>
<td>31</td>
<td>349</td>
<td>96</td>
<td></td>
<td>400</td>
<td></td>
<td>960</td>
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<tr>
<td>Total</td>
<td>1752</td>
<td>150</td>
<td>3543</td>
<td>1963</td>
<td>537</td>
<td>1015</td>
<td></td>
<td>8960</td>
</tr>
</tbody>
</table>
Table 4.2: Curriculum hours in the EU-listed subjects taken by each student

<table>
<thead>
<tr>
<th>Subject</th>
<th>Theoretical training</th>
<th>Supervised practical training</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lectures</td>
<td>Seminars</td>
<td>Self-directed learning</td>
<td>Laboratory and desk based work</td>
</tr>
<tr>
<td>1. Basic Subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Physics</td>
<td>34</td>
<td>48</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>b) Chemistry</td>
<td>17</td>
<td>29</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>c) Animal biology</td>
<td>17</td>
<td>16</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>d) Plant biology</td>
<td>17</td>
<td>16</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>e) Biomathematics</td>
<td>33</td>
<td>41</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>1 – Total number of hours</td>
<td>118</td>
<td>150</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>2. Basic Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Anatomy (incl. histology and embryology)</td>
<td>105</td>
<td>276</td>
<td>259</td>
<td></td>
</tr>
<tr>
<td>b) Physiology</td>
<td>64</td>
<td>16</td>
<td>128</td>
<td>58</td>
</tr>
<tr>
<td>c) Biochemistry, cellular and molecular biology</td>
<td>88</td>
<td>10</td>
<td>70</td>
<td>72</td>
</tr>
<tr>
<td>d) Genetics (including molecular genetics)</td>
<td>42</td>
<td>85</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>e) Pharmacology and pharmacy</td>
<td>60</td>
<td>90</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>f) Toxicology (including environmental pollution)</td>
<td>18</td>
<td>38</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>g) Microbiology (including virology, bacteriology and mycology)</td>
<td>75</td>
<td>127</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>h) Immunology</td>
<td>30</td>
<td>48</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>i) Epidemiology (including scientific and technical information and documentation methods)</td>
<td>72</td>
<td>10</td>
<td>150</td>
<td>32</td>
</tr>
<tr>
<td>j) Professional ethics</td>
<td>10</td>
<td>9</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>2 – Total number of hours</td>
<td>564</td>
<td>45</td>
<td>1033</td>
<td>718</td>
</tr>
<tr>
<td>3. Clinical Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) obstetrics</td>
<td>36</td>
<td>50</td>
<td>12</td>
<td>50</td>
</tr>
<tr>
<td>b) pathology (including pathological anatomy)</td>
<td>128</td>
<td>157</td>
<td>127</td>
<td>65</td>
</tr>
<tr>
<td>c) parasitology</td>
<td>64</td>
<td>7</td>
<td>89</td>
<td>13</td>
</tr>
<tr>
<td>d) clinical medicine and a surgery (including anaesthetics)</td>
<td>30</td>
<td>0</td>
<td>191</td>
<td>0</td>
</tr>
<tr>
<td>e) clinical lectures on various domestic animal, poultry and other animal species including</td>
<td>48</td>
<td>6</td>
<td>38</td>
<td>6</td>
</tr>
<tr>
<td>f) Field veterinary medicine (ambulatory clinics)</td>
<td>18</td>
<td>0</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>g) preventive Medicine</td>
<td>22</td>
<td>0</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>h) Diagnostic imaging (including radiology)</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>i) Reproduction and reproductive disorders</td>
<td>30</td>
<td>55</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>j) Veterinary state medicine and public health</td>
<td>32</td>
<td>65</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>k) Veterinary legislation and forensic medicine</td>
<td>24</td>
<td>99</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>l) Therapeutics</td>
<td>50</td>
<td>137</td>
<td>8</td>
<td>86</td>
</tr>
<tr>
<td>m) Propaedeutics (including laboratory diagnostic methods)</td>
<td>56</td>
<td>83</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>3 – Total number of hours</td>
<td>562</td>
<td>13</td>
<td>1038</td>
<td>284</td>
</tr>
<tr>
<td>4. Animal Production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The students choose optional subjects individually (Table 4.3) in the 1st-5th course. They select 2 subjects in the 1st course and afterwards 1 subject a year. The students choose the subjects from various groups.

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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Theoretical training</th>
<th>Supervised practical training</th>
<th>Other</th>
<th>Hours to be taken by each student per subject group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lectures</td>
<td>Seminars</td>
<td>Self-directed learning</td>
<td>Laboratory and desk based work</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1. Basic Subjects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Chemistry</td>
<td>24</td>
<td>2</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Chemistry of Natural Compounds</td>
<td>24</td>
<td>14</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td>History of Civilizations</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>20</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Physical Training</td>
<td>8</td>
<td>30</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Competition organization and referees</td>
<td>4</td>
<td>44</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Sport Games</td>
<td>8</td>
<td>30</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Population Recreational Sports</td>
<td>4</td>
<td>30</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>A healthy lifestyle</td>
<td>20</td>
<td>20</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Institutions and Policies of European Union</td>
<td>25</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Fundamentals of Law</td>
<td>50</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Foreign Language (English, German, Danish, Italian, French, Russian)</td>
<td>30</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Course for Improvement of the Knowledge of a Foreign Language (English, German)</td>
<td>30</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Course for the Official</td>
<td>30</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>Subject</strong></td>
<td><strong>Theoretical training</strong></td>
<td><strong>Supervised practical training</strong></td>
<td><strong>Other</strong></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td></td>
<td>Lectures</td>
<td>Seminars</td>
<td>Self-directed learning</td>
<td>Laboratory and desk-based work</td>
</tr>
<tr>
<td>Introduction to Education and Information Technology</td>
<td>17</td>
<td>39</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Professional Language</td>
<td>6</td>
<td>0</td>
<td>74</td>
<td>80</td>
</tr>
<tr>
<td>Philosophy</td>
<td>26</td>
<td>14</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Foreign Language for Specific Purposes</td>
<td>34</td>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Work</td>
<td></td>
<td>427</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.1.3 FURTHER INFORMATION ON THE CURRICULUM

The cumulative mark is introduced in the assessment system of the Veterinary Medicine programme. During the entire learning period of certain subject the students are actively assesses during the laboratory and practical works, and the surveys on activity are conducted during the lectures. This way the attendance of students and active work during the entire cycle of studies are guaranteed. The final testing of student’s skills makes not more than 50 percent of total mark.

The rotation of teaching about various sorts of animals (horses, cattle, pigs and small animals) within the subjects (e.g., internal diseases) is carried out starting with the beginning of teaching certain subject, i.e. every week or two. The rotation is going in subgroups of (around) 10 students, who study disease diagnostics and treatment of various animals.

From the 2nd year the students start forming practical skills in the clinics (which means that they take part in entire clinical activity), training farm, etc. Following the made schedule the students collect 80 hours (or 2 weeks) of clinical or non-clinical work (depending on the course) during the school-year. Until 2012 the duty of students used to last 1 day for 10 times a day. Starting with September 2012, following the recommendations of experts, it is planned to create conditions for students to practice (continuously) for one week. 5 students from different courses are working in the clinics every day together with the veterinarians.

When the employees of the clinics are called for help, the students on duty are also taken together. The ambulant trips are organized from 8 am to 4 pm on work days, during the practice of students. Sometimes the trip lasts as long as it is needed to carry out the work, i.e. the work time is not limited. It is possible to go by two cars at a time.

The 4th-5th-year students go to PMBC together with the employees of the clinic of big animals and perform the veterinarian care, according to separate schedule. The students go to the farm even at night together with the veterinarians on duty, if they are called.

4.1.4 OBLIGATORY EXTRAMURAL WORK

The students may perform the extramural work while forming practical sills, and during practice in private clinics, farms, slaughterhouses, State Service of Food and Veterinary (VMVT) testing laboratories, etc. The LUHS Career Centre has made contracts for practices and formation of practical skills with the veterinarian clinics of small animals, farms of cattle, horses, pigs and birds, with slaughterhouses, and animal shelters. The lecturers of clinical disciplines (parasitology, infectious diseases, internal diseases, surgery and clinical diagnostics) go with the students during practical training to the animal farms, perform clinical work, and help to form the practical skills of students.

The students examine wellness of herds, perform clinical and instrumental tests in LUHS VA PMBC (Centre of Practical Teaching and Testing), agricultural companies, stud farms, private farms, poultry and other farms. The tests are performed in the animal care organizations, and it is helped to organize various charity events (for example, sterilization of homeless cats), etc. We cooperate with zoo, LUHS crisis research centre, medical corps, Johnson firm, LVGA (Lithuanian Association of Veterinary Surgeons) and LSGVGA (Lithuanian Association of Veterinary Surgeons of Small Animals) institutions.

The students perform practices in VMVT, NMVRVI (National risk assessment institute of food and veterinary) institutions, slaughterhouses, clinic of small animals of Dr. L. Kriauciūnas, Clinic of big animals, PMBC, private clinics and treatment centres.

Many students choose the place for their practice in treatment centres of small animals.
Table 4.5: Obligatory extramural work that students must undertake as part of their course

<table>
<thead>
<tr>
<th>Nature of work</th>
<th>Minimum period(^2)</th>
<th>Maximum period(^2)</th>
<th>Year in which(^1) work is carried out</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hours</td>
<td>% of total study time</td>
<td>hours</td>
</tr>
<tr>
<td>Food hygiene practice and veterinary inspection</td>
<td></td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>Rotation</td>
<td>320</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Practice</td>
<td>534</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

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

When the students study the subject “Food Hygiene”, they acquire knowledge in food hygiene and veterinary public health. The students start the subject with general requirements related to the chain of food production (EC Regulations No. 178/2002, No. 853/2004, etc., HACCP, Codex Alimentarius, etc.) and chemical risk factors covering food production from the field until the consumer. Later they study about meat, fish, milk hygiene and production technologies and are introduced to the hygiene and production of vegetative products. While studying the meat hygiene and technologies the students learn to perform the ante-mortem and post-mortem inspection of the slaughtered animals and continue to train the skills during practice in slaughterhouses. While studying the hygiene of separate food groups and technologies, the students not only learn to assess the safety and quality of food, but also get introduced better to the application of GMP, GHP and HACCP for manufacture of particular food raw materials and products. The students acquire knowledge about production technologies of food, their influence on safety and quality of products. Afterwards the students study microbiology of food raw materials and products starting with production of raw materials and ending with delivery of food to the consumers. The special attention is given to zoonoses (campilobacteriosis, salmonellosis, etc.), detection and identification of their agents in the chain of food production, prevention of cross-contamination and foodborne outbreaks investigation. The subject ends in studies about application of the aspect of risk analysis with focus on application of risk assessment to ensure food safety and protect public health.

The subject is closely related to other taught subjects. The horizontal integration is carried out in the 10\(^{th}\) semester while teaching in Food Hygiene and Veterinary Law come in parallel. For example, when students study Veterinary Law, they are introduced to legal acts and other documentation, and when they study Food Hygiene, they already look deeper into legal issues related to the chain of food production and carried out veterinary control. The analogous integration is executed also when such subjects as Microbiology of food products and risk analysis and State veterinary and public health are being taught. The vertical integration is related to such subjects as Veterinary epidemiology and infectious diseases (9\(^{th}\) semester), Veterinary pathology (6\(^{th}\) and 7\(^{th}\) semester), Veterinary microbiology (5\(^{th}\) semester), etc. In such a way 20 ECTS attributed to the subject Food Hygiene are supplemented through the vertical integration with other subjects.

Practical training of veterinary students in food hygiene is organised in these slaughterhouses:

1. Company „Krekenavos agrofirma“ is the biggest fresh meat supplier in Lithuania, holding more than a half of fresh meat market and about 12.5 % of heat-treated meat products market. There are the biggest in Lithuania pigs‘ and cattle abattoir, meat cutting and packing workshops and subdivision of heat-treated meat products in this company. There are two separate slaughter lines in abattoir: one for pigs and one for cattle. About 150 000 pigs and 50 000 cattle are slaughtered here during one year. Cooled meat is packed in modified atmosphere tare and in vacuum. The
Company is engaged in selling pork and beef carcasses. It also sells cut pork and beef. Over 24 hours the production and delivery to the buyers amounts to 100 tons of fresh meat and also cooked and smoked meat products on average. Assortment of Krekenava products includes more than 200 product names, among which are: boiled pâtés, cooked sausages, hot-smoked sausages, cold-smoked and dried sausages, other smoked and dried products. The enterprise is 50 km away from VA.

2. Corporation „Utenos mėsa“, occupying 3500 square meters is one of the biggest and modern abattoirs in Baltic States. There are introduced Austrian „Voran Rinker“ equipments, corresponding to EU requirements, the newest animal stunning system, implemented synchonic cutting, computerised carcasses evaluation, fresh meat packing in safe vacuum tare of different format and weight and in gassy tare. There is modern abattoir which enables to supply products, made from fresh and qualified raw material. One of the biggest potentials of meat cutting warrant that all orders would be realized during the shortest time. Corporation is fitted to process many traditional heat-treated products, but the strongest side is fresh meat and its production. Introduced technological lines enable to cut carcasses according any European standard: common, ecological, also HALAL and COSHER. In corporation there are used modern meat choppers, products forming machines, equipments of meat salting, softening, maturing, heat-treating, cooling and freezing. The enterprise is 130 km away from VA.

3. Corporation „Samsonas“ is one of the biggest meat processors in Lithuania. In district of Šakiai animal procurement station and abattoir are introduced. There are technological lines of permanent working and refrigeration equipment. The abattoir is able to slaughter and process 4000 pigs and 1000 cattle during one month working in one shift. The enterprise is 60 km away from VA.

4. Agrovet“ – is also one of the biggest meat processing enterprises in Lithuania. Already now „Agrovet“ is leader in meat export and the biggest cattle meat supplier in our country. The main activity of the enterprise is slaughter of cattle and pigs, meat cutting, production of meat and semimanufactures, chilling and storing, import and export. During a year there are slaughtered about 35 000 cattle, about 2500 horses and about 3000 sheep. The enterprise is 200 km away from VA.

5. Corporation „ARVI KALAKUTAI“ KŪB – is one of „ARVI“ group enterprises, the main activity fields of which are specialised abattoir of turkeys and meat processing department. Corporation „ARVI KALAKUTAI“ KŪB processes more than 6000 tones of turkey meat during a year. The company’s products are sold at the retail chain and at over 600 other outlets in all of Lithuania. One quarter of the products is exported. Arvi Kalakutai products are produced using the technological equipment of the world’s leader Dutch company Stork PMT B.V. The company applies the Hazard Analysis and Critical Control Points (HACCP) programme, which guarantees proper management of all production processes and evaluation of risk factors. At present, corporation offers 100 types of turkey meat products. The enterprise is 50 km away from VA.

Each student group (there are approximately 20 students in one group) have 2 practical trainings in one of slaughterhouses. Each training lasts 4 hours (8 hours at all). Being in a slaughterhouse students observe all stages of slaughter process and learn how to perform veterinary sanitary control in any stage. Slaughtering of about 60-100 pigs, 10-40 cattle and 100-150 turkeys is observed. For learning how to perform post-mortem inspection each student group evaluate at least 10 pigs carcasses, 5 cattle carcasses and 20 turkey carcasses. Internal organs of these animals (turkeys) are inspected, looking for patanathomical changes. Students also learn how carcasses are classified.

During students practice, which lasts for 2 weeks, students visit one of these or any other slaughterhouse independently or in groups and in supervision of veterinarian learn how to perform ante-mortem and post-mortem inspection and veterinary sanitary control of slaughtering stages more accurately. They also learn how sanitation of abattoir is performed, how to take samples for disease control, how to manage specific risk material and secondary products.
4.1.6 RATIOS

4.1.6.1 GENERAL INDICATORS TYPES OF TRAINING

<table>
<thead>
<tr>
<th>Ratios</th>
<th>Description</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Ratio</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 6:</td>
<td>Theoretical training</td>
<td>(A+B+C) 5445</td>
<td>1</td>
<td>Denominator</td>
<td>3515</td>
</tr>
<tr>
<td>R 7:</td>
<td>Supervised practical training</td>
<td>(D+E+F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 8:</td>
<td>Clinical Work</td>
<td>(F) 1015</td>
<td>1</td>
<td>Denominator</td>
<td>1015</td>
</tr>
<tr>
<td>R 9:</td>
<td>Laboratory and desk based work</td>
<td>(D+E+F)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 10:</td>
<td>Self-directed learning</td>
<td>(C) 3543</td>
<td>1</td>
<td>Denominator</td>
<td>3543</td>
</tr>
<tr>
<td></td>
<td>Teaching load</td>
<td>(A+B+C+D+E+F+G)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.1.6.2 SPECIAL INDICATORS OF TRAINING IN FOOD HYGIENE/ PUBLIC HEALTH

<table>
<thead>
<tr>
<th>Ratios</th>
<th>Description</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Ratio</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 9:</td>
<td>Total no. curriculum-hours</td>
<td>Food Hygiene / Public Health</td>
<td>587</td>
<td>1</td>
<td>Denominator</td>
</tr>
<tr>
<td>R 10:</td>
<td>Total no. Hours</td>
<td>vet. Curriculum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hours obligatory extramural work</td>
<td>Food Hygiene / Public Health</td>
<td>587</td>
<td>1</td>
<td>Denominator</td>
</tr>
<tr>
<td></td>
<td>In Veterinary inspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.2 COMMENTS

The content of the VM Study Programme is developed based on the requirements set in the Regulation. At graduation students achieve set of study outcomes. Subjects set out in the Study plan ensure that at graduation students will have been accumulated sufficient subject knowledge on structure and functions of animal organism, infectious and non-infectious animal diseases, their aetiology and treatment, zoonoses, animal breeding and keeping technologies, food hygiene, risk assessment and etc; having acquired cognitive abilities related with veterinary medicine, i.e., ability to recognize and analyse problems associated to animal diseases and to propose solutions, they will be able to assess and apply new technologies both for the disease diagnosis and scientific research, will be able to evaluate results of investigations and their weight etc; will obtain practical abilities to perceive and evaluate an epizootic situation of diseases and to carry out prevention of infectious diseases, will have practical skills of veterinary sanitary work in animal facilities, abattoirs, food processing industries, markets and etc; besides that, graduates of this Study Programme will obtain transferable abilities necessary to constantly improve professional qualification, to use legal and regulatory documents, plan time, analyse and generalize information, to know how to manage risk and changes and carry out organizational activity etc.

Subjects and modules of the Study Programme reflect latest scientific achievements in the field of veterinary medicine. Students are taught of and acquainted with latest achievements in
molecular biology, genetics and microbiology, pharmacology, progressive methods of treating both non-infectious and infectious diseases etc.

It is being considered to change the structure of studies by passing to problem-based teaching, according to the sorts of animals.

It is planned to improve the scheme of formation of practical skills (rotation) – to include the duties of one week duration in clinics.

4.3 SUGGESTIONS

It is necessary to increase the number of self-directed learning hours so that the proportion in R6 formula was reduced.

It is necessary to reduce the number of optional subjects of general education by expanding the choice of clinical subjects. This question is being sold.

The effective methodology of formation of students’ practical skills (duties) cannot be found.

It is necessary to increase the number of hours of clinical work in subjects.

CHAPTER 5. TEACHING, QUALITY AND EVALUATION

5.1 FACTUAL INFORMATION

5.1.1 THE TEACHING PROGRAMME

The curriculum of the VM study programme is drawn in accordance with the requirements set in the Regulation. The programme was worked out taking into account interconnections between studied subjects. In the semester subjects/modules are distributed pursuant to the priority, complexity of and interconnections between the subjects. In the first–third years students study subjects providing basic knowledge and subjects necessary under the regulation of veterinary medicine studies. Subjects of the speciality are studied in the fourth–sixth years.

Pursuant to the priority of subjects students gradually acquire knowledge and abilities starting from the universally applied first year subjects and finishing with specific knowledge.

Students start forming practical skills from the second year. Students apply theoretical knowledge of the subjects of studies at the time of fostering practical skills in Large Animal Clinic, Small Animal Clinic, Practical Training and Testing Centre of VA, LUHS, food enterprises, laboratories, research institutions, individual farms, and companies. Hours devoted to form practical skills are integrated in the separate subjects; a clinical rotation is carried out. Students come to practices with knowledge gained from the necessary subjects that they have already studied before. Such a priority of the instruction of the subjects taking into account also interconnection between the subjects makes it easier for students to seek for good study outcomes and ensure their quality.

In order themes of the subjects/modules set in the Study Programme are not duplicated, an evaluation of SPC is done on the regular basis. In this way it is ensured that amendment or correction of the subjects or their themes is done by avoiding overlapping.

University's Intranet ensures universal access to the organisation of studies (plans, timetables), occupancy of the premises needed for studies;

Seeking to strengthen internal links between separate units, departments of the Veterinary Faculty have been merged into 4 larger units of: Anatomy and Physiology, Internal Diseases, Infectious Diseases, Food Safety and Quality. Closely associated subjects are instructed in the departments, and the general strategy of the department ensures a consistent improvement of subjects, a qualitative instruction and mutual integration.
Interdisciplinary and interdepartmental integration links are implemented through the instruction of general, basic and special subjects.

There is cooperation with the departments of Animal Husbandry Technology while teaching students of the subjects in the area of animal production. The process of VM studies involves departments of Animal Nutrition, Animal Husbandry, Animal Breeding and Institute of Biological Systems and Genetic Research. The department of Animal nutrition is staffed with teachers who have acquired a qualification of the veterinary doctor and animal technologist and their professional qualification allows to instruct Animal Nutrition paying much attention to veterinary aspects, in particular to the nutrition of small animals, dietetics, health disorders conditioned by irregular nutrition and clinical nutrition. Genetic Diseases of Veterinary Pathology are instructed by employees of the Institute of Biological Systems and Genetic Research, close interdisciplinary links have been preserved while instructing Virusology and Immunology, Pharmacology, internal and surgical diseases etc.

Some general subjects (biophysics, biomathematics and others) are instructed by teachers working in other units of the University (LUHS MA).

All interdisciplinary and interdepartmental integration links are provided in the descriptions of study subjects https://sis.lsmuni.lt/employeesas/login.aspx.

Instruction of subjects and supervision of final works involves also scientific workers of Veterinary Institute, whereas in experimental farm of animal husbandry institute students carry out research and practices.

Much attention is paid to acquaint students with intensive farming systems and application of new technologies in the farms, and co-operation with large private farms is maintained in this area. 22 co-operation agreements have been concluded.

Food Safety and Quality Department has been fully renovated. The number of the staff was increased by introducing two new jobs of the lecturers; after the tender 4 docents took up the position of professors.

The new study programme – Veterinary Food Safety launched in 2004 was provided with the material base and human resources. Apart from the veterinarians different food specialists work in the Department - food technologists: meat technologists, milk technologists, technologists of plant products, chemists. This assures a qualitative, profound and consistent instruction of food safety subjects. The Department can offer to students a bigger number and more diverse elective subjects. Students of the Department learn not only in its laboratories, but also in its 14 slaughterhouses and public enterprise „Pieno tyrimai“ which is close to the Academy.

Structure, content and distribution of subjects in semesters over the recent 7 years significantly changed. Contemporary modern methodologies are increasingly used in the process of students’ training and learning. Interactive study methods are pursued – interactive classes, workshops and discussions, students prepare presentations, perform group tasks, do case analyses, participate in simulation and role play exercises; adequate methods are used to achieve projected study outcomes, as well as problem and Project learning methods, a diversity of independent work tasks and methods has been offered and sufficient time has been allocated for independent work of students and their consultation.

Modern tools are used and problems are analysed based on teaching instead of mechanical repetition.

Learning is more effective and efficient when it is supported by the right technology. This is particularly true when it comes to educating veterinarians who must learn to make judgments based on skilled observation of visual clues. At LUHS Veterinary Academy, students will have the benefit of teaching and laboratory facilities designed with multi-media capabilities, and display monitors, microscopes of new generation and laboratory tools provided to the laboratories operating in the Academy.
A distance learning class-room has been equipped for students to receive class materials and tasks from distance.

An important step has already been made by agreeing to use one virtual platform for the development of e-learning courses – Moodle. Intranet is very useful for feedback of students and teachers.

Pre-clinical and clinical training is conducted at the VA main campus. The campus features high-tech classrooms, developed small and large animal clinics, laboratories and pathological centre.

The need for equipment and tools is analysed each year distinguishing priority or most topical areas and trying to update their material base. Each year funds are allocated to buy reagents depending on the number of subjects instructed in the departments and on the demand for reagents.

Conditions have been created for students to form practical skills in scientific VA laboratories. Here students perform laboratory practice and laboratory investigations necessary for the preparation of final works. In the laboratory of animal meat qualities and quality evaluation students learn and carry out analyses of meat quality. Animal health research laboratory takes part in biological, epidemiological and preventive investigations of zoonotic and economically important agricultural animal and bird diseases. The Laboratory of Animal Raw Materials’ (carrion) Quality Evaluation evaluates carrions, in the Animal Welfare Investigation Laboratory students get to know referenced material, standards, immunoferment identification of micotoxins. Digestion Physiology and Pathology Research Centre performs investigations of digestibility of OM matter, in Dr. K. Janušauskas Animal Genetic Laboratory students learn and do molecular and cytogenetic investigations. Teachers working in Experimental and Clinical Pharmacology Laboratory develop many masters while involving them in scientific research, creation of new veterinary preparations and their application. In Immunology Laboratory students individually learn to carry out the main antigen-antibody reactions which are used in microbiological research of food products. Animal Reproduction Laboratory performs laboratory works of andrology and students are taught how to carry out qualitative and morphological sperm research (more in the Chapter 6).

Lecture materials are provided to students in advance. This involves students more actively in the discussion and analysis in the lecture and this facilitates understanding of instructed subjects.

Subject teachers have designed descriptions of laboratory works, methodological recommendations or teaching books. These publications comply with the curriculum of the subject, they are distributed according to the themes and help students prepare for laboratory works. These publications include tasks of independent work and questions of colloquiums. Compliance of all publications with the curriculum of the subject is considered and approved by the Council of Veterinary Faculty. Over the period of 2007-2011, 55 teaching publications have been issued pursuant to the recommendation.

Students have broad possibilities to use teaching and scientific literature, electronic teaching material (PC's, CD-ROMS, etc.) available in VA library. During the recent years, the library acquired many latest textbooks in English language which are used for learning of subjects (more in the Chapter 8).

The number of textbooks in Lithuanian language is insufficient.

Students foster their practical skills (rotation) in Large Animals Clinic, Dr. L. Kriauceliunas Small Animal Clinic, Practical Training and Testing Centre of LUHS Veterinary Academy, Lithuanian Zoo, Institute of Animal Science. Students can also foster their practical skill in private veterinary clinics (Kaunas alone has about 40 of them), but agreements are concluded only with those clinics which meet the requirements of the agreement (experience of the employees, possession of different equipment, flows of patients, recommendation provided by LVAA).

Students acquire practical skills in the public enterprise VĮ „Pieno tyrimai” and in National Food and Veterinary Risk Assessment Institute (NFVRAI) which are located close to VA territory and
are provided with the latest equipment (robots). Agreements have been concluded with State Food and Veterinary Service (SFVS), other divisions of NFVRAI, private veterinary clinics and progressive economic entities (processing enterprise, farmers, companies and poultry farms).

Based on Rector’s Order No. V-76 „On delegation of Authorities” co-operation agreements related with students’ practices and formation of practical skills are signed on behalf of the University by the head of LUHS Career Centre.

Co-operation agreements are not limited in time, and agreements on students’ practices and practical skill are signed for the period of practices as regulated by the programme of practices. Each student leaving for the practice signs a practical training agreement (annex 3).

Agreements have been concluded with 14 slaughterhouses in which students elaborate their practical skills, with 56 private small animal clinics, 22 agreements with production animal farms, with 5 small animal shelters, 3 poultry farms, 2 horse studs and 3 zoological gardens. Sources for the acquisition of pathological material for student teaching are enumerated in the Chapter 7 Animals and Teaching Material of Animal Origin (7.1.2 Pathology).

During practices students are trained under practice programmes designed by the University in collaboration with the enterprise, establishment or farm and learn to apply acquired theoretical knowledge and primary practical skills in practice.

The Objective of integrated Veterinary Medicine study programme is to develop high-level veterinary doctors masters who would be able to work in the private and state network of veterinary services, to diagnose animal diseases, treat sick animals, apply measures of prevention, exercise control of disease and food, analyse and convey knowledge, address complicated veterinary problems, apply skills and knowledge in independent activity and further learning.

The Objective of the Programme complies with the mission and strategic plan of the University.

Completion of integrated studies of 5.5 years awards a qualification of a veterinary doctor and master’ qualification degree.

The objective of the programme and study outcomes are announced on the Internet web site www.lsmuni.lt, web site of the admission commission, newspaper „Gyvulininkystės specialistas”, description of study subjects which are placed on the Internet web site. Students are introduced to the aims of the Programme in the subject „Introduction to Studies” and also before the start of teaching each study subject.

The objective and results of the programme are formed with the contribution of private veterinary doctors-members of LVA, employees-practitioners of Small Animal and Large Animal Clinics, specialists of state veterinary from SFVS and NFVRAI. Doctors-practitioners (and employers) are included in the work of SPC, Faculty Council, University Rectorate, Senate and Council (Chairman of the University Council is Director of SFVS).

The chairman of the commission for the assessment of students’ final works is a veterinarian doctor of science working in the area of private or state veterinary. More than half of the members of the commission do not work in the Faculty, they are famous veterinary specialists of the country (more about that in chapter on examinations)

This resulted in the formulation of specific and measurable study outcomes. Curriculum of studies is closely related with processes taking place in Lithuania and EU countries clearly reflecting European and global trends.

Results of the programme and individual study subjects are annually reviewed. Teachers are requested to review descriptions of subjects each year taking into account comments and proposals of social partners (students, other teachers, employers). Changes are discussed at SPC and Faculty Council (protocol No.04(11), 2008-03-07; No.01(14), 2008-11-24; No.02(15), 2008-12-11; No.03(16), 2009-01-16; No.05(18), 2009-03-20, No.05, 2012-04-05).
SPC includes representatives of the employers. Detailed review of the results is carried out while implementing a project „Improvement of study programmes of agricultural theme of the first and second cycles and development of teachers’ competencies (ŽŪ-SPDK)” VP1-2.2-ŠMM-09-V-01-002), devising a self-analysis summary at the level of the Faculty and submitting the programme for accreditation (SKVC and EAEVE).

Integrated VM study programme forms and develops competencies necessary when carrying out professional activity. Students who have successfully completed the study programme acquire:
1. General professional skills and attributes
2. Main knowledge and understanding
3. Practical competencies (more in the Chapter 4).

Objectives of the programme, study outcomes and study subjects implementing them are closely interconnected.

Complexity of the character of the work of veterinary doctor and responsibility raise high requirements to the competence of the veterinary doctor-master which is knowledge of theories and principles of professional activity, critical understanding and evaluation of the latest methods of activity, cognitive and practical abilities to fulfil the work and develop professionalism which is all assured by the subjects studied in the Programme.

A study programme of Veterinary Medicine was designed taking into account general and special competencies necessary for the graduates of the integrated studies cycle. Results of the Study Programme are directed towards the results of the study subjects and are formulated as clear achievement evaluation criteria revealing students’ competency and knowledge acquired after studies.

Objectives of the Programme and intended study outcomes based on professional and academic requirements for the development of specialists of the veterinary profession of broad profile which are laid down in national and international documents, reflect needs of the society and of the labour market. Relevance of intended study outcomes was emphasized following the results of the global study of professional activity.

The Study Programme is also oriented towards EAEVE (European Association of Establishments of for Veterinary Education) initiative seeking to unify the curriculum and quality of preparation of the veterinary medicine study programmes of the EU member states, this is associated to the EU market area and its potential impact and risks related to animal diseases and quality of food products of animal origin. Considering processes of integration in the world, VM programme is designed to teach foreign students; admission of foreign students is planned from 2011 and we are active participants of international student exchange programmes under which students get knowledge and practical skills in foreign universities. This study programme is universal and specialists trained in it are able to adapt in different countries.

5.1.2 THE TEACHING ENVIRONMENT

The quality of studies is assured through attestation of pedagogical staff and organization of public tender every five years based on the law on Science and Studies of the Republic of Lithuania (Official Gazette, 2009, No. 54-2140), Decision No. VII-20 of the Science Council of Lithuania, 12 October, 2009; LUHS Statute, EC recommendations for the European Charter of Researchers and Code of Conduct for the Recruitment of Researchers (OL L 075/67, 2005), also the procedure for organizing tenders for and attestation of LUHS teachers and research workers to take up positions approved by LUHS Senate resolution No. 4-3 on 23 December 2010.

Teachers’ educational improvement in VA is regulated by the procedure for ensuring education competencies of LUHS teachers (Senate Resolution No. 5-07, 21 January 2011) prepared based on EU documents: Bologna declaration; Paris Conference (5 October 1998); Prague Meeting (19 May 2001); Law on Science and Studies of the Republic of Lithuania and LUHS Statute.
Teachers’ Educational Competency Centre works at the University. Teachers must attend at least 40 hours of educational lectures over five years. This is governed by teachers’ attestation requirements.

Teachers constantly improve their subject qualification looking for and studying novelties of research and technologies, they take part in the conferences, seminars, training sessions, qualification improvement courses, exchange programme (Erasmus), BOVA University Network training events, and they themselves organize courses, publicise research articles, are able to communicate freely in at least one foreign language used for international co-operation.

Teachers are active scientists, they pursue fundamental and applied scientific research, methodical works and other scientific activity, are interested and active in the creation of effective and advanced teaching methods. Each teacher executes a scientific research work under the fields approved by the Senate. Scientific activity and the number of scientific publications of teachers during 5 years is one of the critical indicators while evaluating teachers during attestation.

Scientific research and applied scientific activity improve teachers’ professional qualification, create conditions to supplement instructed subjects with latest knowledge of science and practice, also endow students with skills of scientific research. Scientific activity of teachers involved in VM programme is reflected in scientific publications.

There are also conditions for teachers to go to internships, improve professional qualification, and take part in conferences or similar events in foreign countries. To this aim a special LUHS Fund was set up – provisions of the Open LUHS Fund (Resolution No. 8-10 adopted by LUHS Senate on 15 April 2011).

In order to ensure development of students’ professional competencies, teachers working in VA clinical units specialize according to the type of the animals (racing horses, cattle, pigs, small animals, birds) and area: surgery, internal diseases, obstetrics and gynaecology, diagnostics and etc. All teachers of clinical subjects have licenses of the veterinary doctor practitioner.

Teachers are encouraged to improve by the fact that professor’s or docent’s title may be awarded before expiry of the period set for the first term if he/she fulfilled qualification requirements due to the professor’s or docent’s position during the term earlier than required. LUHS provisions for awarding academic titles (LUHS Senate Resolution No. 5-01, 21/01/2011; Resolution No. 10-01, 27/06/2011).

After achieving teaching excellence teachers are promoted by means of additional premiums added to their wages, letters of appreciation on the advice of VF Council, and suggestions to nominate them for the state awards.

LUHS Senate resolution No. 19-10, 29/03/2012, approved a procedure to support members of the staff who perform internationally competitive research seeking to ensure that a research-based instruction concept is respected. At the same time LUHS procedure for the payment for the work of the employees was approved for teachers for their innovations brought to studies: creation and implementation of the Study Programme, preparation of the study subject (module) in English language, adaptation of the current study subject (module) for instructing in electronic studies, creation and implementation of the study programme jointly with foreign universities.

To improve teaching quality and subject competencies teachers have a possibility to use funds of LUHS VA and MA libraries. Over the recent years, the library of VA was supplemented with new documents adapted to the programme of training VM specialists (all lists of new books and methodological publications are accessible via the web site of the library http://193.219.180.250/page.php?id=13&sub=n) (More in the Chapter 8).
5.1.3 THE EXAMINATION SYSTEM

Intermediate and final assessment of students’ knowledge is governed by Chapter 5 “Assessment of Student’s Knowledge“ of LUHS first and second cycle and integrated studies regulation (LUHS Senate Resolution No 2-06, 29 October 2010; amendment of article 68 is approved by LUHS Senate Resolution No. 7-05, 25 March 2011 [http://trc.lsmuni.lt/media/dynamic/files/404/study_regulations_luhs.pdf]) and the procedure of passing the examination in the field of studies of Veterinary Medicine prepared based on the study regulation of LUHS first and second cycle and integrated studies approved at LUHS VF Council meeting on 20 October 2011, Protocol No. 03(37).

Assessment system is based on the following principles of assessment (recommendations of the Ministry of Education and Science for the improvement of the assessment of study outcomes, 2009): reason – assessment is linked to the objectives of the study programme (study subjects); reliability – assessment results are objective and do not depend on the replacement of the assessor; clarity – assessment system is informative, understandable to assessors and the assessed; benefit – is positively evaluated by the assessed persons themselves and contributes to the implementation of the study programme; impartiality – utilised methods of assessment are equally suitable for all assessed persons.

Student’s knowledge and skills are assessed while studying the subject/module and after completion of its studies. While studying the subject/module, assessment forms are a colloquium, defence of practice works, test, course work, case-record and other forms of which an accumulative score is made; the word „fulfilled“ is entered in the roll and study booklet.

After completion of studies of the subject/module, forms of assessment are: credit, (for the entrants until 2010), complex examination, examination or independent student’s work (project).

After completion of studies of subjects that have less than 10 ECTS, an examination is taken.

After completion (before we call “state exams”) of subjects (there are 9 of them) providing theoretical and practical knowledge highly relevant for a future specialist and having more than 10 ECTS - Animal Anatomy, Animal Physiology, Veterinary Pathology, Veterinary Parasitology, Veterinary Surgery, Internal Diseases, Epidemiology and Infectious Diseases, Obstetrics and Gynaecology, Hygiene of Food Products - VM students take complex examinations. A complex examination is made up of the practical and theoretical part of the subject.

Complex examinations are carried out after completing the studies of the subject at the time specified in the study plan and timetable which is announced at the beginning of the year. The commission of the complex examinations consists of 5 teachers at least half of whom are teachers of the taught subject and other members are of the same study field.

A student receives one week to prepare for the examination; there are no classes at this time.

The examination is assessed using a method of accumulative score; students are familiarised with this method when they start studies of the respective subject. The formula and description of the accumulative score are provided together with the descriptions of the subjects. Examining is done in writing, except the practical part (paragraph 63.1. of the Study Regulation).

Accumulative part of the subject must make at least 50 per cent of the final grade of the examination (paragraph 61.1. of the Study Regulation). Achievements of the student are assessed using a 10-point assessment scale; the lowest positive score (grade) is five; for the calculation of assessment percentage while rounding down the tenth and the hundredth parts of the scores we apply mathematical rounding rules; assessment is recorded in SIS electronic roll (www.lsmuni.lt) and study booklet entering a grade and its meaning (paragraph 65 of Study Regulation).

Assessment of the examination under the procedure of handling, use and administration of SIS study module data is included in the data base of the rolls within 5 days from the date of
assessment of the examination indicated in the electronic roll; the assessment and the data is also included in the study booklet (paragraph 65.2 of Study Regulation).

A student who has not passed the exam due to justified reasons or has failed to pass a complex examination of the study field may retake it only one time. The date of retaking is announce in advance, but not later than 2 months following the beginning of the time set in the study timetable (excluding the time of holidays and practices). In case of failure to pass a complex examination of the study field for the second time, retaking is possible only one year later with the next course. The procedure for preparing and assessing the final works and methodological instructions has been approved by the Faculty Council. Procedures are placed on the web site and methodological instructions are in the VA library.

External assessors are also assessing students. Regulation prescribes to appoint as a chairman of the commission of the final works a specialist in veterinary medicine, doctor of sciences not working in LUHS VA. Usually a doctor of sciences of the study field is appointed as a chairman or a veterinarian working in private, or state veterinary, or a representative of another related establishment of studies or science. The commission for the defence of the final works also includes practicing professionals – potential employers of the graduating students. They make up 50 per cent of all members of the commission. In this way future employers can directly assess knowledge and abilities of the graduates and submit proposals to the Faculty concerning shortcomings of the Study Programme and implementation of study results.

Paragraph 76 of Chapter 6 of Study Regulation Repeated Studies established that a student repeating one or several subjects may not study other subjects at the same time if these subject require knowledge and skills of repeated subjects (more in the Chapter 9).

5.1.4 EVALUATION OF TEACHING AND LEARNING

Provisions of quality assurance in Veterinary Medicine studies (LUHS Senate Resolution No. 17-01, 20 January 2012) comply with the main principles and provisions of quality assurance of European Higher Education Area and the following legal acts: Recommendations of the European Parliament and of the Council of 15 February 2006 „On Further European Cooperation in Quality Assurance in Higher Education“, Law on Science and Studies of the Republic of Lithuania, No. XI-242, 30/04/2009 (Official Gazette, 2009, No. 54-2140), Resolution No. XI-973 of the Seimas of the Republic of Lithuania, 30/06/2010, annex 2), Strategic development Plan of the University, LUHS First and Second Cycle and Integrated Studies Regulation (LUHS Senate Resolution No.2-06, 29/10/2010), Regulation on Veterinary Medicine Residency Studies (LUHS Senate Resolution No.13-01, 30/19/2011), LUHS procedure for the organization of tenders to take up the position of teachers and scientific workers and for their attestation (LUHS Senate Resolution No. 4-3, 23/12/2010), LUHS procedure for ensuring teachers’ education competencies (LUHS Senate Resolution No. 5-07, 21/01/2011). Said provisions regulate internal study quality assurance procedures, methods and measures of LUHS and VA and they are based on provisions and key principles of quality assurance of European Higher Education Area.

Policy of study quality assurance is implemented by means of monitoring and internal and external regular evaluation, assessment of the study outcomes of students, insurance of teachers’ competencies and teaching quality, supervision, evaluation and improvement of study resources and provision of support to students, accumulation and public dissemination of information on the study programme, study subjects, study outcomes, teachers’ competencies, results of the evaluation of the quality of studies, students’ opinion on studies.

All members of the academic community of the University are involved in the drafting and consideration of the documents assuring the quality. All units of the Faculty and University are responsible for the assurance of the quality of studies. The Service of Audit checks if material and
human resources are used properly, effectively, efficiently and economically in the units of the University.

A scheme for adopting important decisions is as follows: all social stakeholders (students, teachers, administrative workers, graduates, employers and other persons concerned provide proposals regarding improvement of the Programme SPC which considers them and submits to the departments and VF Council. In the further stage, depending on the group of importance of the question, study questions are coordinated with pro-rector for studies and presented for the consideration of SQC and approval by the Rectorate, if necessary – by the Senate Science and Study Commission which refers them for the approval at the Senate meeting attended by representatives of academic community and students who have the right to vote for the taking of the decisions. Exceptional study questions (i.e. the amount of the tuition fee) are considered and approved by the University Council. Representatives of the students are included in all management structures mentioned above.

Responsibility of implementers is defined in the rules of procedure of SPC, VFC, SQC, Rectorate, and Senate and in job descriptions of the administration workers and teachers.

Internal study quality assurance involves all social stakeholders: students, teachers, employers, trade union, Government, society and graduates.

Quality assurance system is ensured at the levels of: 1) units (academic staff and subjects and modules); 3) Faculty; 4) University; 5) national level; 6) international level.

1. Quality of the units is ensured through attestation of academic staff and organization of public tender every five years as set by the Law on Science and Studies of the Republic of Lithuania (Official Gazette, 2009, No. 54-2140), Resolution No. VII-20 research Council of Lithuania on 12 October 2009; LUHS Statute, EC recommendations on the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers (OL L 075/67, 2005), LUHS procedure for the organization of tenders to take up the position of teachers and scientific workers and for their attestation (LUHS Senate Resolution No. 4-3, 23/12/2010).

Representatives appointed by the Senate Science and Studies Commission, heads of departments and teachers take part in the lectures read by younger teachers and by persons who apply to the position of docent or professor for the first time. Results of observation are discussed individually, lectures of teachers read while participating in the tender to take up positions are reviewed and reviews are presented to the Attestation Commission. Teachers improve professional qualification individually and following a general procedure (more in the Chapter 5.1.2).

At the level of units, responsibility for academic and scientific activity directly lies on the departments and their heads. Taking into account the fact that at the time of external evaluation of EAEVE experts (2002) and internal evaluation (2007) biggest attention is paid to the structure and quality of the Programme and to material resources, analysis was made based on available data. A competent expert (teacher) or the group of them was appointed to evaluate each study subject. They evaluated coherence of the curriculum of the subject with intended study outcomes, quality of practical classes, detected and eliminated cases of duplication. Employees, teachers and students were also surveyed. Structure and curriculum of the Study Programme were essentially updated based on the recommendations and legal acts (more in the Chapter 4).

A continuous evaluation of each subject of the Programme, infrastructure needed for studies, other material resources and quality of instruction is carried out.

In interactive questionnaire students received questions on the quality of instructing the subjects, appropriateness of instruction forms, accessibility to existing infrastructure, textbooks and other methodological materials.

A teacher responsible for the instruction of the subject performs analysis of students' academic achievements, summarizes and analyses examination results bearing in mind academic achievements at the time of studying a subject, attendance, interest in subject-related questions and non-academic activity. Data is communicated to the deanery of Veterinary Faculty.
2. **At the level of the Faculty** quality assurance is implemented with the coordination of the VM Study Programme Committee, VF Council, and Dean of the Faculty.

Monitoring of the quality of the VM Study Programme, assurance and analysis in the Faculty is carried out by the *Coordination Committee* of the Study Programme (SPC) formed of teachers, students and employers’ representatives. The Committee submits to the Veterinary Faculty Council (VFC) recommendations related with the quality of studies, proposes measures to improve the quality and ensure transparency of assessment process. SPC continuously collects data on the improvement of the curriculum of the Study Programme and its implementation, organizes internal analysis. The last detailed internal self-analysis of VM programme at the Faculty level was done in 2007 based on SPC provisions approved by LVA Senate meeting (Protocol No. 05-02-02).

An important element of the management of the Programme is the *Veterinary Faculty Council* (VFC) elected for 5 years from teachers working in the Programme and having a working load of at least half full-time position. VFC is made of 15 members representing all Faculty departments, clinics, social partners and students. Dean is not elected to be a chairman.

Functions of the coordinator of the implementation of VM Programme are carried out by the Faculty Dean who is a member of the Faculty Council. Faculty Council (VFC) considers and submits for the approval of the Senate study plans and programmes; evaluates results of scientific research of the Faculty taking into account conclusions of experts; considers candidacies to take up the positions of the Faculty dean, head of institute, clinic and department and presents conclusions to the Rector and Senate; provides proposals to the Senate regarding improvement, restructuring of the Faculty's activity; organizes self-analysis of the quality of studies and research activity; approves composition and provisions of the Faculty Commission and considers and approves their proposals; each year hears and evaluates reports of the dean and heads of the Faculty departments; drafts and submits to the Senate proposals regarding changes in Faculty (LUHS Faculty Council Regulation approved by LUHS Senate resolution No. 14-07 on 28 October 2011). VFC evaluates and approves methodological instructions and textbooks developed by the teachers, performs evaluation, approves programmes of teaching subjects and submits proposals to the University Commission responsible for ensuring monitoring and assurance of the quality of studies (SQC, Senate Science and Studies Commission regarding improvement of the quality of teaching and science, considers different study-related procedures (Protocol No. 03 (10), 2008-12-13, 2012), discusses study outcomes and the results of defending master's final works, analyzes results of students’ assessment.

Each year SPC and deanery present a report on the assurance of the quality of study subjects taught by the departments and measures to improve the quality of the activity of the units. At least once per study year, meetings of the administration take place with students in order to receive a feedback using different measures intended to improve the quality of studies, discuss consequences of implementation, whereas meetings of employees of the deanery and VF Council with students take place regularly. Upon the end of the semester and expiry of the period for liquidating academic debts, progress of separate subjects is analysed in each course and in the context of previous studies. Trends of changes are identified and their potential causes are analysed. Results of the analysis are delivered during the meeting of the VFC. The Faculty also analyses issues of students failing to fulfil requirements of the studies stage and provides recommendations concerning elimination of debts.

At the level of the **University** quality assurance is implemented while evaluating studies and science.

The **Commission for evaluating the quality of studies operates in the University**. It is formed each year and is approved by the Rector. The process for ensuring administration of the Study Programme and quality assurance is governed by the provisions of the Studies Regulation [http://www.lsmuni.lt/studijos/studiju-qualitye-1](http://www.lsmuni.lt/studijos/studiju-qualitye-1) and of LUHS study quality assurance. The Commission selects one of the regulated study quality evaluation forms and it evaluates how the process of administration and quality assurance of the Study Programme is implemented. It
summarizes evaluation results and presents them to the Rectorate, Senate and publicizes on the web page assigned to the questions of quality of LUHS Internet web site.

Opinion on the study quality is investigated and evaluated in all study cycles. Retrospective and prospective study quality investigation and evaluation tools are applied.

Permanent evaluation of study subjects according to the curriculum, complexity of studies and forms of assessing knowledge and abilities is carried out. Students have conditions to evaluate the quality of studies in electronic environment.

Introduction of electronic evaluation system increased the number of students participating in the evaluation of the study quality by more than 6 times. The number of completed questionnaires increased by 10 times. In 2011, students of Veterinary Medicine study programme completed 681 questionnaires.

Data of the questionnaire are summarized and analysed automatically. Only such study subjects are presented for evaluation of the study quality which are evaluated by the 30 or more students. Students evaluated in the questionnaire pedagogical ethic, instruction quality, subject, usefulness of lectures and practice works. There were 8 subjects evaluated by 30 or more students in 2009, and over the period of 2010-2011 as many as 17 subjects were evaluated. Pedagogical ethic was evaluated by 88,5 per cent, instruction quality – 89,7 per cent, evaluation of the subject – by 82,5% per cent, usefulness of lectures – 77,2 - 83,3 per cent, usefulness of practice works – by 83 - 90,3 per cent.

Over the period of 2010 and 2011, students evaluated study subjects in general more positively than in the surveys of 2008-2009. A minimal number of complaints were registered in the questionnaires concerning violations of pedagogical ethic. However, students are not enough active while connecting to the system. Some students state that it is complicated to connect to the system.

At least once in two years employers’ and/or graduates’ opinion about the quality of studies is evaluated.

Graduates and external social stakeholders have and make important impact on the evaluation of the quality of studies. They are invited to meet experts of the Programme.

Thanks to social partners, formation (rotation) of practical skills improved.

Influence of the participation of external social stakeholders is very important and valuable in terms of studies quality. Employers both directly and indirectly participate in the improvement of the quality of the Programme. Employers take part in the activity of VF Council, SPC, and assessment of students during practice and examinations.

Having analysed the Programme and problems encountered by the graduates who started their working activity, employers provide proposals concerning elimination of shortcomings and improvement of the quality of the Programme.

Indirect involvement of the employers is felt while evaluating the data of the surveys and comments provided by practice supervisors of the enterprises on the skills and abilities of students during the practice. Pursuant to this data modules of the subjects are improved.

Earlier the Study Programme would always be evaluated taking into account changing needs of practicing veterinarians. At the present time we follow the „Procedure for analysing the opinion of students, teachers and social partners (employers)” [No.19-04, 29/03/2012] approved by the provisions of LUHS study quality assurance.

Evaluation results have been disseminated for the academic community, in LUHS Internet pages, newspapers „Ave vita“ and „Gyvininkystės specialistas“ and they are reviewed in Rector’s annual report.

3. At the national level the quality of VM Study Programme is assured through the evaluation and accreditation of programmes organized by the Centre for Quality Assessment in
Higher Education of the Republic of Lithuania. Evaluation as a permanent process takes place in cycles every 3, 4 or 6 years and is based on self-analysis and comparability while directing the results to further improvement of the quality of VM Study Programme. Its aim is to evaluate to which extent the Programme meets requirements for the quality of studies.

The last external evaluation of the VM Study Programme was carried out by the experts invited by the Centre for Quality Assessment in Higher Education on 27 October 2011. It should be noted that external evaluation conclusions developed by the experts were considered and approved at the meeting of the Studies Evaluation Commission on 25 November 2011. The Centre took into account conclusions of the experts concerning evaluation of the Programme and the proposal of the Commission and took a decision to evaluate the VM Programme positively and to accredit it for 6 years until 30 June 2017 (Official Gazette, No. 22-1051, 18/02/2012). It is possible to read all conclusions of the evaluation of the ongoing Study Programme by Internet http://www.skvc.lt/en/content.asp?id=254.

The group of experts recommended for the SPC and administration of Veterinary Academy to discuss possibilities while describing study results envisaged in the Programme, to make concepts of graduates’ clinical skills and abilities while carrying out research more detailed. The proposal was taken into account and implemented. Clinical part of the study curriculum was expanded and from 1 January 2012 we will start applying a one-week and uninterrupted clinical rotation.

LUHS Senate Resolution No. 19-10, 29/03/2012, set out to support internationally competitive research carried out by the staff with a view of ensuring respect to the research-based instruction concept.

Clinical base is continuously renovated, equipment of Small and Large Animal clinics is being updated (more in the Chapter 6).

Horizontal and vertical integration of subjects has been analysed and reinforced and the number of elective clinical subjects increased (Chapter 5.1.1). Plans of the subjects of the first three study years have been reviewed, studies are oriented to the student. A new study quality assurance system has been approved as a tool to promote innovations and improves the Study Programme (LUHS Senate Resolution No. 17-01, 20/01/2012, LUHS study quality assurance provisions).

4. **At international level** exhaustive evaluation of the Programme on the initiative of LVA was carried out in 2002 by a group of EAEVE and TAIEX experts. Quality assessment and accreditation procedures are important in seeking to achieve the key objectives of the Bologna process: to increase mobility and of students and academic staff (at institutional, national and international levels), seek for the recognition and comparability of the qualifications and to improve the quality of the placement of the graduates.

All proposals provided by the group of EAEVE experts have been taken into account and are implemented or underway.

5.1.5 STUDENT WELFARE

Students of Veterinary Academy receive a subject „Introduction to Veterinary Medicine Studies and Information Technologies“ in the first year to familiarize them with the Study Programme, study documents, duties and rights of the students, possibility of voluntary vaccination against zoonoses (rabies, tetanus, etc).

All children and adolescents in Lithuania, according the procedure of Lithuanian children’s prophylactic vaccination calendar (SAM 2007 12 22 Order no. V-1066) are vaccinated against tetanus. The students usually are 18-24 years old, therefore vaccination is still valid and they are not vaccinated additionally against tetanus.
In Lithuania for three consecutive years people over 26 years of age are vaccinated voluntarily against tetanus and diphtheria for free, as this programme is funded from state budget. Students of this age and staff are informed about this programme.

In 2008 – 2010, KMU Infectious diseases Clinic carried out a project to invite students for free vaccination against zoonoses. Students do not often make use of the possibility of vaccination, since this is not obligatory pursuant to the Constitution of the Republic of Lithuania.

However, VA takes stringent measures to protect students from infection with infectious diseases or injuries during clinical work.

There is a valid safety and health instruction No 60 for the person working with animals in Small Animal Clinic (approved by LVA Rector’s Order No.45. (18/03/2003), as well as safety and health instruction No 83 for the person working with devices and installations in the clinics (approved by LVA Rector’s Order No.151. (28/08/2006). Based on this, all students in Dr L. Kriauceliūnas Small Animal Clinic and Large Animal Clinic are introduced to labour safety and behaviour rules while working with a sick animal and with work tools during their first day on duty; they must sign under the rules in logbook of introductory safety and health instructions. In the rooms where people work with animals first aid measures are clearly visible.

At the time of instructing clinical subjects, before examination and student’s contact with the sick animal, a veterinarian doctor or teacher questions the owner and collects anamnesis vitae highlighting the information whether the animal was vaccinated against rabies. If the animal was not vaccinated, the student will be not allowed to perform examination and analyses of such a patient.

If animal’s carrion is sent for dissection to the Centre of Pathology, the accompanying letter must note that symptoms characteristic of rabies have not been expressed 14 days before the moment of death of the animal, and that the animal was vaccinated. The owner of the animal signs the document.

Animal carrions intended for the purposes of veterinary pathology, anatomy or surgical clinical works are delivered to the Centre of Pathology accompanied by a covering letter including a clinical diagnosis.

In case of suspicion that the animal had an infectious disease, these carrions are not used to teach the students, they are analysed and sampled by authorised staff of the State Food and Veterinary Service. In 2006, vaccination of wild animals was started in our country against rabies. Systemic vaccination of wild animals bears increasingly better results. In 2010, only 33 cases have been established, of them - 2 cases with home animals. 14 cases were identified for foxes and 13 – for raccoons.

Students must wear gowns, shoes and disposable gloves when they perform clinical studies, preparation, autopsies and surgical operations. There are hygiene premises installed for the students.

In Lithuania post-exposure prophylaxis of rabies is compulsory and it is carried out 100 % of cases. Any person adversely affected by contact with an animal, must contact the LUHS Kaunas Hospital emergency department, where patient is given first aid and vaccination against rabies.

Effectiveness of the measures is proved by the fact that not a single case of accidence has been registered in VA during clinical work or practices.

VA ensures social support to students. This support also covers potential psychological help to students arranged by a psychologist and assisting volunteers.

Students, as all citizens of the Republic of Lithuania, have the right to select treatment establishment and receive free treatment services. If necessary, students are given academic leave due to illness.

Procedure for granting stipends and support to students is set by LUHS Senate documents: “Support provisions to students of LUHS first, second cycle and integrated studies “(LUHS Senate Resolution No. 16-18, 23/12/2011), Provisions for granting promotion stipends to LUHS first, second cycle and integrated studies students (Senate Resolution No. 11-04, 28/06/2011)
Direct financial support and promotion is provided in the form of regular or single direct payments of the University paid from the fund of stipends, funds of memorial scholarships (Regulation on memorial scholarships, LUHS Senate Resolution No. 16-19, 23/12/2011) or from other sources of funding in order to support, encourage a student rate his achievements.

Social scholarships may be allocated to students, which are allocated and administrated by State Studies and Science Foundation under Resolution No. 1801 of the Government of the Republic of Lithuania „On the approval of the description of the procedure for allocation and administration of social scholarships to students of higher education " (Official Gazette, 31/12/2009, No. 158-7187).

On the decision of LUHS Stipend Commission, incentive stipends are given from the fund made of the state budget assignations and using the means intended to promote students, also using the funds of the state budget to pay for state-funded study places and from tuition fees.

Incentive stipends are given to the best students. A single incentive stipend may be given to good students once a semester in case of disasters or in exceptional cases.

Indirect financial support and promotion is also in place in the University – the University reimburses part of the tuition fee. The main aim of reducing the tuition fee is to help socially supportable students and students with best learning outcomes.

LUHS has approved a procedure for establishing and comparing averages of study outcomes of first cycle students and students of integrated studies (LUHS Senate Resolution No. 18-05; 10/02/2012). This procedure also provides a possibility to receive vacant state-funded places and compensations for the paid fee.

Veterinary Academy has 4 student dormitories which can inhabit 650 students. Requests of all the applicants to live in the dormitory are satisfied pursuant to the set procedure. About 220 students studying Veterinary Medicine constantly live in the dormitories. All dormitories have Access to the Internet.

VA created conditions for self-governance of students: LUHS Students Representation is operating in the University including VA students too, whereas VA has Veterinary Academy Student Association, which is independent, voluntary non-political organization uniting students studying in Veterinary Academy. The Association has financial, economic, organizational and legal independence. Main objectives of the Association are to satisfy students’ needs for self-expression, take active part in entrenching and practically implementing rights, freedoms and duties.

VA has a modern sport complex in which students can attend classes of elective subjects or go in for sports in their free time. There are different training divisions where students train and participate in competitions of higher education institutions organized by Lithuanian Students Sports Association in different sectors: aerobics, Greece-Roman wrestling, table tennis, power lifting, basketball, badminton.

Students have conditions to participate in the activity of Students Research Society (SRS), they write scientific articles and deliver scientific presentations at annual SRS conferences.

Students also take part in cultural life of Academy, attend the choir „Juventus“, national dance group „Džigūnas“ and folklore group „Kupolė“.

LUHS VA Career Centre is responsible for monitoring of the graduates’ career, organization of students’ practice and administration of the formation of practical skills. Each year Career Centre organizes courses of fostering competencies of informal education as „Self-knowing“, „Self-analysis“, „Team Work“ etc. As of the last year, a state Project was launched No. VP1-2.3-ŠMM-01-V-01-001 „Development and implementation of the career development and monitoring models
for students of higher education institutions, improvement of the qualification of specialists of professional orientation working with students, creation of tools for them”.

Career Centre maintains close relations with employers and mediates in the placement of the graduates. Free job vacancies are regularly announced on the Internet website and days of career are organized where students (and quite often their parents too) meet with employers. There employers meet with the management of Academy and teachers to discuss practice sites, student outcomes, preparation of final works etc.

Graduates of the last 3 years have successfully found jobs either in Lithuania or abroad and successfully work both in private and state sectors. According to the data of the surveys of the graduates made half a year later after award of the diplomas, 89.8 per cent of the persons who completed studies found jobs (85.5 per cent of the graduates have been questioned). As many as 96.4 per cent of the questioned persons worked pursuant to their speciality in private enterprises or state organizations.

5.2 COMMENTS

1. A new study quality improvement strategy has been created and approved at the University, as well as the activity plan and assessment procedure based on the provisions and recommendations of Bologna process for the assurance of the quality of studies.
2. VA of LUHS consistently implements policy for quality evaluation;
3. The work of the committees of the study programme justified expectations for the improvement of the quality of the Programme;
4. A new study quality evaluation procedure was prepared while expanding groups of people evaluating the quality of studies.
5. Lack of attention to the parents who are also attributed to social stakeholders;
6. Implemented study programmes and awarded qualifications are approved, monitored and regular internal and external evaluation is carried out;
7. Results of internal and external quality assessment have been effectively used to improve the Study Programme;
8. Assessment of the outcomes of students’ studies is carried out based on set criteria and procedures;
9. Quality of teachers' competencies and instruction quality is assured;
10. VA studies quality assessment system is introduced in electronic environment;
11. Questionnaires are not always reliable in terms of objectivity; more versatile forms of surveys are needed;
12. Teachers whose shortcomings of work are mentioned in the questionnaires of the students are seldom provided a possibility to react;
13. Study resources and support to students are reviewed, evaluated and improved on the regular basis;
14. Distribution of the funds intended for the preparation of the final works in the department should be made more clear;
15. A system of accumulation of information on studies (study programme, study subjects, study outcomes, teachers’ competency, study quality assessment results, students’ opinions on studies) is ensured;
16. The number of textbooks in Lithuanian language is insufficient;

5.3 SUGGESTIONS

1. Application of the European Credit Transfer System for the assessment of the volumes of student work triggers a necessity to follow compatibility between the time allotted for studies, teaching methods and real working time of the students. This is evaluated based on the data derived from the questionnaires of the students. Questionnaires are planned to be effected after the final examination of the uptake of the programme in a specific subject. Methodology of Tuning
Educational Structures in Europe will be used for this purpose – two questionnaires have been designed to check the workload of the student – one is intended for teachers, the other – for students. Teachers complete their questionnaires at the time of planning the module or component, when a study load in hours must be foreseen for the student. The second questionnaire is filled in by the students who have completed a module or programme component. Here the time actually required to carry out the tasks (taking into account the themes) is set out, including time to prepare for and perform laboratory work, attend lectures and prepare for interim and final examinations. In case of incompatibility between the planned and factual workload, adjustments will be made;

2. A state project No VP1-2.3-ŠMM-01-V-01-001 was launched titled „Development and implementation of student education models for their career and for career monitoring, improvement of the qualification of professional guidance specialists working with students and creation for them of appropriate tools“ (I stage), which intends to develop IS (information system) including 3 subsystems one of which is devoted for the monitoring of the careers of the graduates. With the help of this subsystem data on the career of the graduates will be collected and systematized five years following graduation of the higher education school.

CHAPTER 6. FACILITIES AND EQUIPMENT

6.1 FACTUAL INFORMATION

6.1.1 PREMISES IN GENERAL

LUHS Academy of Veterinary is situated in one relatively compact area, except for one student dormitory. VA premises are built in 1936, studies building and assembly hall – 1970-1974, Dr. L. Kriauceliunas Small Animal Clinic was reconstructed in 1996. The most of the premises and auditoriums were reconstructed and modernized or reconstruction takes place now adapting them to the needs of modern teaching. VA has 4 student dormitories.

VA located in these buildings, the scheme is presented in Figure 6.1:
1. Central House,
2. Anatomicum,
3. Vivarium,
4. Study building and a large hall,
5. Study building,
6. Infectious Diseases Department of Building,
7. Large animal clinic building,
8. Dr. L.Kriauceliunas Small Animal Clinic Building,
9. Sports Palace,
10. National Food and Veterinary Risk Assessment Institute (Kaunas Territorial Division),
11. Economy Part Premise,
12. Forge and economical workshops,
13. Garages,
14. Cafe and student canteen,
15. Student dormitories.
6.1.2 PREMISES USED FOR CLINICS AND HOSPITALISATION

Table 6.1: Places available for hospitalisation and animals to be accommodated

<table>
<thead>
<tr>
<th>Species</th>
<th>no. places</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>6</td>
</tr>
<tr>
<td>Horses</td>
<td>9</td>
</tr>
<tr>
<td>Small ruminants</td>
<td>3</td>
</tr>
<tr>
<td>Pigs</td>
<td>10 (1 stall)</td>
</tr>
<tr>
<td>Dogs</td>
<td>18</td>
</tr>
<tr>
<td>Cats</td>
<td>9</td>
</tr>
<tr>
<td>Farm animals and horses</td>
<td>2</td>
</tr>
<tr>
<td>Small animals</td>
<td>8</td>
</tr>
</tbody>
</table>

6.1.3 PREMISES FOR ANIMALS

There are 10 healthy animals kept in large animal clinic of VM for students training needs. They are fed and looked after by clinical support staff.

Also laboratory animals are used for students training needs in VM: BALB/c mice, Wistar population rats, guinea pigs and New Zealand rabbits, which are bred and reared in VA vivarium. The animals are kept in modern cage systems which comply with EU standards. There are 150 mice, 130 rats, 40 guinea pigs and 45 rabbits are kept in vivarium. Premises and cages sanitation and hygiene conditions are maintained by a mobile washing machine and other equipment, ambient temperature and humidity regime is maintained by ventilation equipment. Animals are fed with special balanced diet, watered with tap water.

VM programme students have an opportunity to use PI LUHS Academy of Veterinary Practical training and testing center during the studies process which has 815 ha land, 464 livestock is kept in in model tied up and loose cows milk storage farms with milk block and training premises which have health certificate.

While studying animal husbandry, and animal production technologies e.g. milking technology, the environment of animal hygiene, Framework of organic livestock, framework of horse breeding, evaluating herd health, animal welfare students provide practice work on a variety of farms and stud farms. Practice works are led in the farms of LUHS LSMU VA Practical Training testing center (PTTC), organic farms, stud farms: JSC Vilniaus zirgynas, Marvelės zirgynas, Nemuno zirgynas, fur animals growing farms, agricultural companies AC Lytagra, also we visit
private animal breeders. Furthermore, practice works are carried out in VA vivarium with laboratory animals and in large animal clinic with the animals for training and sick animals.

6.1.4 PREMISES USED FOR THEORETICAL, PRACTICAL AND SUPERVISED TEACHING

Premises of the Veterinary Academy of LUHS contain different numbers of seats allocated for students, but they are absolutely sufficient for the training of students in all programmes pursued by the VA following timetables and teaching schedules agreed.

Table 6.2: **Premises for clinical work and student training**

<table>
<thead>
<tr>
<th>Small animals</th>
<th>no. consulting rooms</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no. surgical suits</td>
<td>3</td>
</tr>
<tr>
<td>Equine and food animals</td>
<td>no. examination areas</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>no. surgical suits</td>
<td>1</td>
</tr>
<tr>
<td>Other (small ruminants/pigs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.3: **Premises for lecturing**

<table>
<thead>
<tr>
<th>Hall Dr. Stasio Jankausko</th>
<th>Konrado Juozo Aleksos</th>
<th>no. 3</th>
<th>no. 4</th>
<th>no. 5</th>
<th>no. 6</th>
<th>Žalčio salė (Hall of the Grass-snake)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places</td>
<td>210</td>
<td>280</td>
<td>275</td>
<td>275</td>
<td>105</td>
<td>50</td>
</tr>
</tbody>
</table>

Total number of places in lecture hall: 1235

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

<table>
<thead>
<tr>
<th>Room no. 1</th>
<th>no. 2</th>
<th>no. 3</th>
<th>no. 4</th>
<th>no. 5</th>
<th>no. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places</td>
<td>20</td>
<td>25</td>
<td>20</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Room no. 6</td>
<td>no. 7</td>
<td>no. 8</td>
<td>no. 9</td>
<td>no. 10</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>24</td>
<td>28</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Room no. 11</td>
<td>no. 12</td>
<td>no. 13</td>
<td>no. 14</td>
<td>no. 15</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>37</td>
<td>37</td>
<td>20</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Room no. 16</td>
<td>no. 17</td>
<td>no. 18</td>
<td>no. 19</td>
<td>no. 20</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>26 vietos</td>
<td>20</td>
<td>24</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Room no. 21</td>
<td>no. 22</td>
<td>no. 23</td>
<td>no. 24</td>
<td>no. 25</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>25</td>
<td>50</td>
<td>15</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Room no. 26</td>
<td>no. 27</td>
<td>no. 28</td>
<td>no. 29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Total number of places in rooms for group work: 729

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

<table>
<thead>
<tr>
<th>Laboratory no. 1</th>
<th>no. 2</th>
<th>no. 3</th>
<th>no. 4</th>
<th>no. 5</th>
<th>no. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Places</td>
<td>24</td>
<td>24</td>
<td>15</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Laboratory no. 6</td>
<td>no. 7</td>
<td>no. 8</td>
<td>no. 9</td>
<td>no. 10</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>24</td>
<td>32</td>
<td>24</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Laboratory no. 11</td>
<td>no. 12</td>
<td>no. 13</td>
<td>no. 14</td>
<td>no. 15</td>
<td></td>
</tr>
<tr>
<td>Places</td>
<td>20</td>
<td>24</td>
<td>25</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Laboratory no. 16</td>
<td>no. 17</td>
<td>no. 18</td>
<td>no. 19</td>
<td>no. 20</td>
<td></td>
</tr>
</tbody>
</table>
All the facilities used for the training of students meet regulatory requirements for work safety and hygiene. All premises for theoretical, practical and supervised teaching are equipped with fire protection and safety measures (water taps and fire-extinguishers). Working in laboratories and clinics, students wear gowns and disposable gloves. In the Laboratories of the Department of Biochemistry, where it is relatively worked with hazardous materials, there is first aid kit, woolen blankets for fire-fighting, safety glasses, respirators, gasmask. Aprons are worn and disinfectant, hand washing and disinfection measures – Manusept, Baktosept, Furaciline, 3% hydrogen peroxide is used in the laboratories of the Department of Infectious Diseases and also bandages are used. Dogs and cats fixation sticks, muzzles, restraint cages for cats, suppressing gloves are used for the students’ safety Dr. L Kriauceliunė Small Animal Clinic.

### 6.1.5 DIAGNOSTIC LABORATORIES AND CLINICAL SUPPORT SERVICES

#### Diagnostic laboratories

VA clinic (Large animals and Dr. L. Kriauceliunė Small Animal Clinic) is equipped with the necessary equipment and facilities for studies and clinical work. Also mobile veterinary clinic is functioning. For the disease diagnostic in Large animal clinic, portable X-ray device with scanner is used providing an opportunity to perform X-ray tests during the outpatient tours and portable ultrasound device useful for diagnosing problems of claudicating. Also flexible endoscope is used for diagnosing various internal diseases of different animals: digestive, respiratory and urinary systems, etc., the main morphological parameters of blood of various animals which are useful for diagnosing various diseases under the field conditions may be tested using blood gas analyzer EPOC. Also morphological blood testing device ABACUS JUNIOR and vet. biochemical testing device HITACHI is used.

Morphological and biochemical blood tests, urine, coprology and skin parings research, blood smear microscope study for relation of blood parasites, express tests for relation of viral diseases are carried out in Dr. L. Kriauceliunė Small Animal Clinic. Electrocardiograph Cardiofax ECG-9620M (Nihon Kohden, Japan), cardiovascular ultrasound device Acuson (Acuson Small Systems Division Plymouth Meeting, PA 19462, USA), inhalation anesthesia apparatus with SEVORANE® evaporators are used the diagnostic purposes. An oxygen dispensing system, X-ray device Spectra325C (No UL 232-0795, X-RAY Hausing Assembly, No 39417), ultrasound device 485 ANSER, bronchoscope (Model 1185A, ILLIUMINATOR, SCOTT FIBER OPTICS), video otoscope (UB CAM 2.0 Videoscope), monitoring MINDRAY MEC-1200 vet., blood biochemical analyzer Reflotron Plus (Roche, Germany), morphological blood analyzer Idexx LaserCyte (Model
No 99-3001-01, Serial No DXBP010885. USA.), urine analyzer Idexx VetLab UA is connected in operating theatres.

Central clinical support services

Veterinary clinic offers preventive, diagnostic, treatment and other services: inspection, specialist consultation, vaccination, animal protection against parasites, animal identification and registration hip and knee examination for breeding dogs, electrocardiography, X-ray tests, morphological study of blood and blood biochemical tests, urine tests, coprology and skin parings research, blood smear microscope study for relation of blood parasites, ultrasound examination (heart and abdominal organs, bitch and cats pregnancy identification), otoscopy, endoscopy, dental hygiene, bacteriological examination, mycological, microscopic (fungi) research, histological and cytological studies (for incidence of cancer diagnosis), dog sperm qualitative research, therapeutic and surgical treatment (internal and infectious diseases, obstetrics and gynecology, traumatology - orthopedics, visceral surgery, cardiology, blood transfusion, dentistry, dermatology), animal euthanasia. Also provides post-operative treatment of an animal in hospital; animal care in hospital (while owner is on holiday), dog bathing using a good quality shampoo and drying. All clinic services are provided by the internal working arrangements.

Clinic acquires medicine and equipment independently. The drugstore established in the clinic allows collaborating with the suppliers of different brands and meeting the clinical needs of patients beginning from required accessories for disease diagnostic equipment to medicines and drugs necessary for operations.

6.1.6 SLAUGHTERHOUSE FACILITIES

The faculty has agreements with the 5 biggest meat producers in Lithuania, where students have access to slaughterhouse facilities:

1. Joint Stock Company „Krekenavos agrofirma“ is the biggest fresh meat supplier in Lithuania, holding more than a half of fresh meat market and about 12.5 % of heat-treated meat products market. Some of fresh meat production it imports to Russia, Belarus, Germany, Latvia, Estonia, Sweden, Great Britain and Ireland. There are the biggest in Lithuania pigs’ and cattle abattoir, meat cutting and packing workshops and subdivision of heat-treated meat products in this company. There are two separate slaughter lines in abattoir: one for pigs and one for cattle. About 150 000 pigs and 50 000 cattle are slaughtered here during one year. Cooled meat is packed in modified atmosphear tare and in vacuum. The enterprise is 80 km away from VA.

2. JSC „Utenos mėsa“ of “Biovela Group”, occupying 3500 square meters is one of the biggest and modern abattoirs in Baltic States. There are introduced austrian „Voran Rinker“ equipments, corresponding to EU requirements, the newest animal stunning system, implemented synchronic cutting, computerised carcasses evaluation, fresh meat packing in safe vacuum tare of different format and weight and in gassy tare. The enterprise is 130 km away from VA.

3. JSC „Samsonas“ is one of the biggest meat processors in Lithuania. In district of Sakiai animal procurement station and abattoir are introduced. There are technological lines of permanent working and refrigeration equipment. The abattoir is able to slaughter and process 4000 pigs and 1000 cattle during one month working in one shift. The enterprise is 60 km away from VA.

4. JSC “Agrovet“ – is also one of the biggest meat processing enterprises in Lithuania. Already now „Agrovet“ is leader in meat export and the biggest cattle meat supplier in our country. The main activity of the enterprise is slaughter of cattle and pigs, meat cutting and meat production. During a year there are slaughtered about 35 000 cattle, about 2500 horses and about 3000 sheep. The enterprise is 200 km away from VA.

5. Corporation „ARVI KALAKUTAI“ KŪB – is one of „ARVI“ group enterprises, the main activity fields of which are specialised abattoir of turkeys and meat processing department.
Corporation „ARVI KALAKUTAI“ KŪB processes more than 6000 tones of turkey meat during a year. The enterprise is 50 km away from VA.

6.1.7 FOODSTUFF PROCESSING UNIT

The agreement between Veterinary Academy and 5 foodstuff processing companies was signed and students according their demand can use these facilities. Most often students use this agreement for the preparation of the final thesis (samples collection, data collection).


6.1.8 WASTE MANAGEMENT

There is a freezer-premise in the Pathology Center of Department of Infectious Diseases where animal cadavers, slaughter, various biological waste, secretion and etc. is sealed in metal containers. When containers are full a special transport for animal waste delivery is called up from JSC Rietavo veterinarių sanitarija where disposal of waste is done. The euthanized animals in Dr. L. Kriauciulienės Small Animal Clinic are transferred to Pathology Center for utilization with referral and owner’s agreement. The manure for composting is moved from Large Animal Clinic. Sick from infectious diseases animals’ manure is inactivated.

The rest of food products (meat, milk, fish etc.) used for Food Hygiene courses is discharged as a normal foodstuff. The contaminated material (Food microbiology courses) is decontaminated in a separate autoclave and removed to containers in general procedure.

6.1.9 FUTURE CHANGES

Equipment of the classrooms, teaching laboratories and other premises necessary for studies will be upgraded using the funds of 2011-2012 Nemunas Valley Project “Science of animal health, nutrition and animal raw materials, development of studies infrastructure and consolidation of scientific potential” and 2011-2013 Project „Upgrading of studies infrastructure and basic equipment while creating Lithuanian University of Health Studies”. For instance, renovation of Anatomicum of the Department of Anatomy and Physiology, (685 m²), where prosectorium, Histology laboratory, 3 research premises, skeletons demonstration and training premises, museum and auditorium will be installed. Equipment is planned to be acquired in 2014.

A Veterinary and Animal Husbandry Science and Studies Teaching Base (experimental farm with 500 places) will be constructed in LUHS PMBC (2013) and Breeding Value Determination Centre in which clinical premises (with facilities for procedures, surgery, rehabilitation and embryos transplantation) and all types of animal upkeep and quarantine areas will be installed.

Before November of 2013, Surgeries Testing Centre will be established within the premises of Large Animal Clinic and miniature pigs and testing dogs will be kept in PMBC as of that date.

Premises intended for public health studies and sciences will be built on VA territory until November of 2013. Three new laboratories for analysis of food quality and safety will established in the new building (each for 25-30 students). Also it is foreseen that under merging agreement current facilities on the first floor in building No.5 will reconstructed till September of 2013. Reconstruction will cover: 7 offices for teachers; 1 seminar room (30 places); 1 microbiology lab for students (25-29 places); microbiology lab for PhD students (6-8 work places). Also in 2013 two laboratories (25-30 seats each) will be established in the building No.4 (2nd floor) for students lab work. It is planned to purchase some equipment for the teaching purposes at the department of Food Safety and Quality: Milkoscan, Somascope, Penzym or Beta star test for the inhibitorial substances in milk; milk analyser; two laminars, 3 shakers, radiometer MKGB-01, AT1315, Sound Analyser,
binocular microscope, Digital Anemometer, Digital Light Meters, water bath, pipettes (automated), incubators (at least 100 L, 2 units), incubator with freezing, set of vortexes, laminar 1.5 m., filtration equipment for microbiological examination of drinking water; food analyser, pH-meter (2 units), spectrophotometer; bench-top milk processing equipment etc.

6.2 COMMENTS

VA has sufficient number of premises (auditoriums, laboratories, rooms) and departments and laboratories have enough equipment and means necessary to ensure the quality of study process. After joining LVA and KMU studies and scientific material basis intensified. Ongoing large-scale projects with funds allocated to improve the material base of VA.

There are 4 departments in Veterinary Faculty (Anatomy and Physiology, Food Safety and Quality; Noninfectious Diseases; Infectious diseases), 2 clinics (Dr. L. Kriauceliūnas Small Animal and Large Animals clinics) and Pathology Center where students gain knowledge in 29 educational laboratories and 16 education rooms. There are enough premises for various species of animals’ hospitalization (55 places) and isolation (10 places), facilities for clinical work and students training (9 consultation rooms and examination rooms and 4 operating theatres for small and large animals) in VA clinics. Also other LUHS faculties’ departments take part in VM studies: 3 departments and 1 institute (Animal Technology, Animal nutrition, Animal Breeding, Biological Systems and Genetic Research Institute) of the Department of Animal Technology, 3 departments (Biochemistry, Department of Physics, Mathematics, Biophysics; Language and Education Departments) of Department of Medicine, 3 departments (Preventive Medicine, Social and Human Sciences, Department of Health Management) of Faculty of Public Health and Sport Institute of Nursing Faculty where there are 18 educational laboratories and 13 education rooms. Depending on the specifics of the particular subject there are 913 and 729 individual working places equipped. There are 3 computer classes with 120 individual working places. There are 25 individual working places in Microscopy Laboratory. There are 37 places for students in the laboratories of Pathology Center. The training room with 24 places is equipped in Distance Learning Center.

5 classrooms are provided with modern demonstration tools (computers, digital video projectors), three classrooms have video and audio equipment. Training laboratories and training rooms have laboratory or training desks, water supply system and fume hoods, training facilities are provided with measures for the demonstration of video materials and etc. Training laboratories are provided with laboratory equipment and measures which are suitable in terms of specificity of the subject instructed. The quantity of computers and software, which are modern and legal, is adequate to implement the VM Programme. Microscopy Laboratory is equipped with modern OLYMPUS CH20 sp 5038 microscopes. Pathology Centre has hygienic facilities for students including 2 dissection tables for large animals and 4 dissection tables suitable for the animals of different sizes, a hoister has been installed to hold animal cadavers in a vertical position. There are sets of dissection tools, scales, freezers, fume hoods and refrigerators needed to store animal cadavers and their waste, also means of transportation and etc. Centre of Pathology has a laboratory with all necessary equipment and tools to carry out pathological histology research and prepare pathological histology material for the studies of students. VA clinics (Large Animals and Dr. L. Kriauceliūno Small Animal Clinics) are procured with equipment and measures that are needed for studies and clinical work. Distance Studies Centre has software to execute distance studies. Students of the VM Programme have a possibility of using in the study process the equipment and measures of VA scientific laboratories, centres and a vivarium, as well as Practical Training and Testing Centre of public enterprise LUHS Veterinary Academy.

Below is provided a list of some laboratories with the basic equipment used in the study process: **Laboratory for the Assessment of Meat Characteristics and Quality** defines meat quality using pH meter Inolab 3, measurer of colour Minolta chromameter 410, automatic dry
matter scales SM-3, high pressure chromatographic system, spectrophotometer and etc; **Animal Health Research Laboratory** performs biological, epidemiological and prevention investigations of the diseases of zoonotic and economically significant agricultural animals and poultry using the following equipment: amplifier for chain reactions of polymerases, horizontal electrophoresis and gel recording equipment, photometer of immunofermentation, spectrophotometer for serological investigations, II class biological safety cabinet, centrifuges, -20°C and deep freezing freezers and thermostats to examine cell cultures and perform virusological examinations, luminescent and inverse microscope and binocular stereomicroscopes, parasitological examination equipment and etc; **Animal Raw Materials (Carcasses) Quality Assessment Laboratory** has instruments to assess carcasses (FOM, INTROSKOP), meat cutting measures, video and multimedia equipment, a camera for taking pictures of carcasses, a minibus for travelling to meat enterprises and etc; **Animal Welfare Research Laboratory** has accumulated reference materials, standards and immunofermentation tests for the determination of mycotoxins, possesses such equipment as ALMAMO-22993, air gas analyser Dräger, TSI – thermal environment research device, Gilian apparatus for dust dispersion analyses, temperature accumulators – EBI-6 and etc. The Laboratory is equipped with a sterile room for releasing micromicets, light microscopy for identifying micromicets and modified chromatography methods for the detection of micromicets. The following Romer Labs (USA) equipment is used: Romer mill, mixer, Romer® auto spotter and Romer®Evap system. Samples are cleaned using Romer Labs clean up columns. Screening is done using immunofermentation analysis, assessment is done using Neogen Optical Density Reader, Stat Fax 303 plus Micro strip Reader. **Poultry Feed and Poultry Products Laboratory** equipment allows to examine the feed and quality of the poultry and eggs, for example, an egg multi-tester „EMT-5200“ is used to measure the weight of the egg, height of the egg albumen, Haugh unit, intensity of the yolk colour; eggshell force analyzer „Eggshell Force Gauge Model-II“, Gerhardt fat determination system, Fibre Bag System, Memmert ovens, high pressure liquid chromatography (HPLC) system and etc; **Research Centre of Digestion Physiology and Pathology** carries out studies on biochemical and microbiological parameters of rumen fluid and feed organic material digestion using Kjeldahl and microbiological research equipment. **Dr. K. Janušausko Animal Genetics Laboratory** has all state-of-art equipment to perform molecular and cytogenetic studies, for example, 3 DNR amplifier, centrifuges, freezing centrifuge, vortex tubes, 3 horizontal electrophoresis apparatuses for agarose gel, ABI 310 Capillary DNR analyser, BioRad gel video recording system, Biolar -70°C freezer, laminar, fume hood, thermostats and etc; **Experimental and Clinical Pharmacology Laboratory** uses a semi-automatic biochemical analyzer „Clean Check Plus“, automatic analyzer „Eos-Bravo“ to carry out scientific and student final works. In the nearest future it is planned to acquire a semi-automatic analyzer Evidence Investigator to determine the quantity of veterinary medicine residues in animal matter using biochip reading technology. **Immunology Laboratory** has appropriate equipment and instruments for students to perform individually basic antigen-antibody reactions which are used to carry out microbiological studies of food products and demonstrate reactions of molecular methods etc. **Animal Reproduction Laboratory** uses the following equipment for research, practical studies and student laboratory works: FacsCalibur flow citometer, Micro plate Reader ELX800G S/N 18, microscopes of different purposes – trinocular with epifluorescent additional port SPECTRUM, Inverted, Fluorescent, Eclipse 50i NIK-MBA 8502M, water cleaning deionising system ULTRA CLEAR BASIC PLUS, PGR mixture preparation device, Horizontal Heliv electrophoresis system MSCHOICE10, CO2 and System Incubator F.Ili GALLI, Dewar flasks, Programme SCA 2002 LITE Micro Optic Morphological Assessment Module SCA 2002, Programme Module SCA DNA frag. Micro Óptic etc. Besides these enumerated instruments and equipment, students can also utilize the equipment and instruments of 8 more laboratories.

It is intended to establish zoonaric research center till 2016.
Described premises and equipment are used not only for studies in veterinary medicine program but they are used by the students of Veterinary Food Safety, Animal Technology, Medical and Veterinary Genetics and Medical and Veterinary Biochemistry programmes.

Need for the equipment and tools is analysed each year while distinguishing priority or most topical areas in order to upgrade their material base. Depending upon the number of subjects taught at the departments and the need for reagents, a certain amount of funds is allocated each year.

6.3 SUGGESTIONS

It is intended studies infrastructure improvements, renovation of existing facilities, planning of the new premises.

More funds will be allocated for the renovation of Large Animal Clinic, the acquisition of large sick animals.

To supply clinics with modernized technique. Visual means for operations monitoring will be acquired. It is intended to acquire the equipment for horse rehabilitation (running track with water, solarium, laser therapeutic device and etc.).

To increase the number of equipment and transport necessary for animals’ outpatient service. It is intended to acquire one more trailer for animals’ transportation and a car for students’ out-patient visits.

The building of new clinic for large animals is planned in the territory of PMBC. The building of breeding valuation centre is planned in the territory of PMBC in which facilities it is foreseen horse operating theatre with rehabilitation facilities, bovine embryo transplant laboratory with bovine procedural facilities (together with operating theatre).

Conclusion of new contracts with economic entities for students' practical skills development. The contract with the economic entities for their veterinary services (full).

It is estimated vivarium building use extension renovating existing and developing new infrastructure. It is estimated to build acute test centre in VA territory where it will be possible to provide experiments on small laboratory animal, dogs, cats, pigs and sheep. Laboratory animal breeder is intended to be built in PMBC territory (dogs).

Establishment of study skills formation and competence development Centre.

The lack of external investment negatively affect technology acquisition and renewal process and possibilities to better adapt the buildings and facilities according to the needs, delay the processes of large-volume complex rearrangement of the premises for adjusting them to new technologies in veterinary medicine.

CHAPTER 7. ANIMALS AND TEACHING MATERIAL OF ANIMAL ORIGIN

7.1. FACTUAL INFORMATION

7.1.1 ANATOMY

Table 7.1: Material used in practical anatomical training

<table>
<thead>
<tr>
<th>Dogs</th>
<th>Ruminants</th>
<th>Horses</th>
<th>Other animals (piglets, cats, birds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In total:</td>
<td>Year</td>
<td>In total:</td>
<td>Year</td>
</tr>
<tr>
<td>Live animals (Topic of practical classes „Skin and its formations“).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animals are examined in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009-2</td>
<td>2009-1</td>
<td>2010-2</td>
<td></td>
</tr>
<tr>
<td>2010-2</td>
<td>2010-1</td>
<td>2011-2</td>
<td></td>
</tr>
</tbody>
</table>

the clinics

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching aids produced from animal cadavers (each year bone collections are supplemented, “wet” preparations of internal organs for specific practical exercises are collected for short storage.)</td>
<td>24</td>
<td>2008-6</td>
<td>21</td>
<td>2008-5</td>
<td>3</td>
<td>2008-1</td>
<td>30</td>
<td>2008-10</td>
<td>2009-8</td>
<td>2010-8</td>
<td>2011-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2010-5</td>
<td>2011-7</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skeletons (museum exhibits are used)

| | 4 | 6 | 4 | 11 |
| | | | | |

“Wet” preparations of internal organs are museum exhibits intended for long storage. Organs of different animals: cat, dog, cattle, horse kidneys; dog, pig, cat brain; dog and pigs embryos; pig, cat, dog stomachs, cattle tongue, horse, dog, sheep, pig hearts, pig liver, spleen and etc.

| Muscle models specially prepared from the horse and cattle cadavers, for a long-term use. | 0 | 1 | 1 | 0 |
| | | | | |
| Demonstration stands of vessels and nerves, specially prepared from horse and cattle cadavers, for a long-term use | 0 | 1 | 3 | 0 |

| Models of different organs (gypsum) | 33 examples (dismountable horse’s, pig’s muscles, heart, eyes, brain, dismountable bird with internal organs, udder, stomach, other different organs) |
| | |
| Moulages of different organs (gypsum) | 9 examples (tongue, skin, different internal organs, genital system) |

| Computer programme K-9(1) | K9 Anatomy. Canine anatomy interactive |
| | |

7.1.2 PATHOLOGY

### Table 7.2: Number of necropsies over the past 3 years

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of necropsies</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 2011</td>
<td>Year 2010</td>
</tr>
<tr>
<td><strong>Food-producing animals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cattle</td>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>small ruminants</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>pigs</td>
<td>95</td>
<td>107</td>
</tr>
<tr>
<td>other farm animals (deers)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Equine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td><strong>Poultry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>346</td>
<td>95</td>
</tr>
<tr>
<td><strong>Rabbits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>23</td>
<td>15</td>
</tr>
<tr>
<td><strong>Companion animals/exotic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dogs</td>
<td>204</td>
<td>140</td>
</tr>
<tr>
<td>cats</td>
<td>74</td>
<td>52</td>
</tr>
<tr>
<td>Other animals**</td>
<td>93</td>
<td>85</td>
</tr>
</tbody>
</table>

** Zoo animals, minks, ferrets, chinchilla, ostrich, Guinea pigs, pigeons, parrots, wild birds, reptiles

Animal cadavers for pathological anatomical studies and the samples for histopathological studies are delivered to the Pathology Centre from the VA Dr. L. Kriauceliūnas Small Animal Clinic, VA Large Animal Clinic, AB „Kaišiadorių paukštynas“, AB „Vilniaus paukštynas“, AB „Arvi kalakutai“, other poultry farms, AB „System“ and other swine-breeding farms, AB „Vilkijos ūkis“ and other fur animals breeders, Lithuanian Zoo, Lithuanian Sea Museum, private small animal clinics, small animal holders, agricultural companies, other cattle and horse breeders, law enforcement, environmental institutions. More interesting cases of pathologies get from slaughterhouses; they are brought by veterinary surgeons working in the slaughterhouses.

Centre of Pathology contains a Division of Pathological Anatomy which belongs to Kaunas Division of the National Food and Veterinary Risk Assessment Institute. The Division also performs necropsy, which can be watched by the students, and forensic veterinary medicine examination.

Centre of Pathology has macroscopic and microscopic preparations, an archive of pictures used for teaching students.

Students of Veterinary Medicine perform necropsy in the third, fourth and fifth study years, during the Veterinary Pathology and Forensic Veterinary classes, at the time of forming practical skills and practice and before preparing final master works.

All the cadavers or waste of animal origin delivered to the Centre of Pathology are removed and destructed by UAB „Rietavo veterinarių sanitarija“.

Centre of Pathology organizes for students practical work of animal anatomy (currently the anatomicum is under reconstruction), veterinary surgery works using animal cadavers. Residency studies take place in the Centre of Pathology since 2006, there are 6 studying veterinary residence surgeons at the present time.

Histopathological Studies Division of the Centre of Pathology in average pours about 1000 samples into paraffin for study purposes (training, student master works, residency students) and produces from them micro preparations.

The Centre of Pathology registers and accounts all pathological anatomical and histopathological examinations that are executed.

7.1.3 ANIMAL PRODUCTION

The Clinic contains 6 stalls adapted to treat and hospitalize ruminants and deliver practical training for students.

At the time of practical exercises students and teachers go to PTTC in Giraitė and Muniškės or to other breeders of food-producing animals.

7.1.4 FOOD HYGIENE/PUBLIC HEALTH

The fifth year VM students after theoretical classes in Food Hygiene have the practical training in animal and poultry slaughterhouses. This training is focused to obtain practical skills in ante-mortem and post-mortem inspection. Each group of students participates in 2 practical training sessions lasting 4 hours each (in total 8 hours). Each group of students is trained to carry out a post-mortem inspection including at least 10 pig carcasses, 5 cattle carcasses, and 20 poultry (turkeys, broilers) carcasses. Whereafter each student has to perform practice (54 hours) in slaughterhouses where they carry out an ante-mortem and post-mortem inspection of food animals in supervision of a veterinary inspector working at the slaughterhouse. A process of slaughter is supervised and all
stages of slaughter are analyzed during slaughtering of about 60 pigs, 10 cattle and 100 poultry (turkeys, broilers).

7.1.5 CONSULTATIONS AND PATIENT FLOW SERVICES

7.1.5.1 CONSULTATION

LUHS VA Dr. L.Kriaucielinaus Small Animal Clinic is open every day, on weekends and holidays from 8 a.m. to 8 p.m. From 8 p.m. to 8 a.m. first aid to the animals is provided by a veterinarian on duty.

LUHS VA Large Animal Clinic operates all year round, consults and provides services 24 hours a day and 7 days a week.

7.1.5.2 PATIENT FLOW

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Year 2011</th>
<th>Year 2010</th>
<th>Year 2009</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a</td>
<td>b</td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>Food producing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bovine</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Ovine, caprine</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Porcine</td>
<td>102</td>
<td>18</td>
<td>89</td>
<td>22</td>
</tr>
<tr>
<td>Other farm animals**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Poultry</td>
<td>8</td>
<td>-</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>Rabbits</td>
<td>11</td>
<td>-</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Equine</td>
<td>139</td>
<td>21</td>
<td>141</td>
<td>60</td>
</tr>
<tr>
<td>Companion animals, exotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canine</td>
<td>3545</td>
<td>275</td>
<td>2858</td>
<td>150</td>
</tr>
<tr>
<td>Feline</td>
<td>698</td>
<td>131</td>
<td>485</td>
<td>98</td>
</tr>
<tr>
<td>Other**</td>
<td>34</td>
<td>3</td>
<td>29</td>
<td>6</td>
</tr>
</tbody>
</table>

** Llamas, donkeys, lynxes, tiger-cats, ferrets, chinchillas, Guinea pigs, rats, exotic birds, reptiles

Large Animal Clinic can accept 6 cattle, 9 horses, 3 small ruminants, and 10 pigs at one time. Dr. L.Kriaucielinaus Small Animal Clinic has 35 cages for in-patient animals.

7.1.6 VEHICLES FOR ANIMAL TRANSPORTATION

LUHS VA Dr. L.Kriaucielinaus Small Animal Clinic uses one car Peugeot 406 to deliver sick animals to the Clinic.

LUHS VA Large Animal Clinic uses a trailer intended to transport large animals within the Republic of Lithuania. Another trailer is planned to be obtained.

For the purposes of pathology studies pig, poultry, other animals cadavers are delivered using a car with a trailer belonging to LUHS VA Maintenance Division.

7.1.7 ON-CALL EMERGENCY SERVICE
LUHS VA Dr. L. Kriauciliūnas Small Animal Clinic provides first aid to small animals around the clock. From 8 a.m. to 8 p.m. the clinics supply services – their vehicle departs on call and brings a sick animal together with the owner to the clinics where the animal receives assistance. LUHS VA Large Animal Clinic is also open for first aid services 24 hours a day.

7.1.8 ON FARM TEACHING AND OUTSIDE PATIENT CARE

Examination of large animals, general clinical inspection is performed in the farms where samples for laboratory examinations are taken and, if the condition is not serious, appropriate injections are made without taking the animal to the clinic. The patient is further treated by a local veterinary surgeon (under agreement). All inspections and simple interventions are carried out by the students together with their teachers or veterinarians.

7.1.8.1 AMBULATORY (MOBILE) CLINIC

Ambulatory visits help serve all ailing patients held in the farms or by private animal breeders. Ambulatory visits are organized from 8 a.m. to 4 p.m. on working days during the classes of students. The Clinic has 2 cars (9 and 5 seats) used for the purposes of studies. At the time of ambulatory visits students can familiarize themselves with physiology of the cattle, sheep, goats, horses, and pigs, symptoms, diagnostics and treatment of diseases. Ambulatory visits (for treatment purpose) cover 36 health herd of animals in average per year.

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

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of patients</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 2011</td>
<td>Year 2010</td>
</tr>
<tr>
<td>Food-producing animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cattle</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>small ruminants</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>pigs</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>other farm animals **</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Poultry (no of flocks)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Rabbits (no production units)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Equine</td>
<td>101</td>
<td>104</td>
</tr>
<tr>
<td>other **</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

** Lama, elk, monkey, white bear, tapir

7.1.8.2 OTHER ON FARM SERVICES AND OUTSIDE TEACHING

LUHS Career Centre has concluded agreements on practices and formation of practical skills with small animal clinics, with slaughterhouses of the livestock, horses, pigs, poultry and with animal shelters. Teachers of clinical subjects (Parasitology, Infectious Diseases, Internal Diseases, Surgery, and Clinical Diagnostics) and students during practical exercises travel to animal farms in which students train their practical skills. Clinical work of parasitology is implemented while working with students on the farms, studs and private small farms where students take part in our projects. In 2011 goats farms were visited 14 times in Vilnius, Kaunas and Kaisiadoriai districts where activities included identification of infection of goats with digestive tract helminths and provision of recommendations to farmers on
the control of the said parasites. Students also took active part in *Echinococcus granulosus* control project ongoing in the villages where regular monitoring over dog infection and dehelminization from cestods is carried out. Similar activity is carried out also in the breeding grounds of *Cervus nippon* and *Bison bonasus* which are kept in enclosures. Activities there include investigations of infections with digestive tract and other endo-parasites and submission of recommendations to animal breeders on the control of parasites. Students also take part in the diagnosis and control of small animal parasitoses, joint identification of infection of some wild hunted animals and animals from the zoo with parasites.

Students in Microbiology Laboratory carry out clinical work including microbiological inspections of clinical pathological matter samples (400 per year in average) received from the clinics, breeders of cattle, horses, poultry, pigs, fur animals and other animals.

During practical training of clinical diagnostics students and teachers together go to the cattle farms and interpret causes of metabolism disorders. Cow urine is analyzed with respect to ketone bodies and proteins, blood is taken for laboratory analysis, vitaminization is performed, cows are examined to identify foreign (metal) bodies in the reticulum and recommendations are provided to cattle breeders.

VA Vivarium keeps 40 rabbits and 45 guinea-pigs which veterinarians and students together vaccinate, dehelminthize animals and provide another necessary veterinary aid.

<table>
<thead>
<tr>
<th>Species</th>
<th>Year2011</th>
<th>Year2010</th>
<th>Year2009</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food-producing animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cattle</td>
<td>1496</td>
<td>872</td>
<td>517</td>
<td>1031.3</td>
</tr>
<tr>
<td>small ruminants</td>
<td>42</td>
<td>34</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>pigs</td>
<td>22</td>
<td>30</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>other farm animals</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Equine</td>
<td>1032</td>
<td>990</td>
<td>870</td>
<td>964</td>
</tr>
<tr>
<td>Other</td>
<td>32</td>
<td>50</td>
<td>12</td>
<td>31.3</td>
</tr>
</tbody>
</table>

7.1.9 OTHER INFORMATION

Clinical training of students is also carried out outside the boundaries of the faculty as:
- In LUHS VA PTTC, agricultural companies, stud farms, private farms, poultry farms and other farms where students investigate healthiness of the herds, perform clinical and instrumental inspections of animals, take blood, content of the rumen, urine, faeces for more detailed inspections which are later carried out in laboratories, diagnose diseases, clarify their causes, prescribe treatment, apply medicine, examine pregnancies, castrate and etc;
- We co-operate with animal care organizations, which treat animals and perform inspections, providing support while arranging different charity actions (as sterilization of stray cats) etc;
- We co-operate with the Lithuanian Zoo while providing support in consulting, diagnosing and treating different cases;
- We co-operate with LUHS Crisis Management Centre (CMC) (experimentations with pigs), War Medicine Academy (different first aid courses), Johnson Company (stomach reduction surgeries);
- We co-operate with slaughterhouses in which slaughter processes are observed, all slaughter stages are analysed, post-mortem inspection is learnt and internal organs of carcasses are evaluated etc;
- We co-operate also with State Food and Veterinary Service, National Food and Veterinary Risk Assessment Institute, where students perform laboratory practice;
- We co-operate with Lithuanian Veterinary Association and Lithuanian Small Animals Veterinary Association and if needed, other possibilities of co-operation are used while treating and diagnosing animal diseases.

Skills of clinical work with small animals in the Faculty are trained in Dr. L.Kriauciliunas Small Animal Clinic both during practical work, duty and clinical practice. Part of students during the session stay on duty in private small animal clinics which meet the requirements. During clinical practice quite a significant part of students select places for their practice in small animal clinics.

Practical skills of clinical work with large animals are formed in Large Animal Clinic and PTTC. In the absence of a sufficient number of sick production animals and horses in the Faculty, training mostly takes place outside the Faculty, in private farms and companies both during the training sessions and mobile ambulatory aid.

Provide of consultations, proposals regarding animal care, feeding, treatment, diagnosis of more complicated cases and inspections outside the boundaries of the faculty are implemented with the help of more modern, better equipment and competency of scientists working in the faculty. All the knowledge is used in studies.

In majority of the cases students are given primary cases of illness, because study schedules require that classes of clinical disciplines usually take place once a week. In-patient animals, both in large and small animal clinics, are treated longer than a week and those patients with more rare diseases or more interesting cases are repeatedly analysed with the same group of students, their treatment are discussed and the course of disease is observed etc. If there is no possibility to observe sick (large) animals, more interesting cases are discussed with students at the time of another practical class or this can be done daily with students who are on duty at that time. During ambulatory treatment of small animals and subject to the consent of the owner, students can repeatedly observe these animals during the next practical exercise and to assess the cause of the illness and effectiveness of the treatment etc. Students, while being on duty in the clinics, and residents not only perform primary examination of patients, but also take part in their further ambulatory or in-patient treatment. Students, while writing papers, preparing their presentations, collecting information for the final works, spend a lot of time in the clinics also when they are free from classes (diagnosing diseases, supervision and treatment of patients, perform of procedures and etc). In this way animals under treatment are used to train the students as much as possible.

At the present time the working hours of both small and large animal clinics in the Faculty is 24 hours a day. Part of clinics veterinarians working only clinical work. They perform clinical work and teach students of practical skills during their duty hours and practices, guide preparation of the finals works of the students. In this way such surgeons work full-time, i.e. 8 hours a day (aggregate work accounting is applied, therefore the working time is very different). Others, whose main job is in the departments (teachers of clinical disciplines), work in the clinics depending on the full-time job load from 2 to 4 hours. Veterinarians in the large animal clinics have specializations pursuant to the types of the animals: some treat horses, others – ruminants and etc. Specialization of veterinarians in Small Animal Clinic is more narrow, because therapeutic division has one veterinarian cardiologist (4 hours a day), one - dermatologist (8 hours a day), one - gastroenterologist (2 hours a day), one veterinarian specializing in the treatment of exotic animals (4 hours a day). Division of surgery has two veterinarians traumatologists (one works 4 hour a day, the other – 8 hours a day), one veterinarian is a specialist of soft tissues. All veterinarians working in the surgical division have permits to work with x-ray equipment. Part of veterinarians, who have recently started working due to the fluctuation of specialists, yet don’t have narrower specialization
but it is envisaged to provide them with more narrow specializations in residency studies and by sending them to other European universities. All the veterinarians are encouraged and willing to improve their specialization at conferences, meetings of veterinarians both in Lithuania and abroad.

Specialists of the Faculty have close contacts with veterinarians working outside the Faculty. These contacts are constantly strengthened. Teachers of our Academy together with their students help practicing veterinarians diagnose diseases, clarify their causes and prescribe treatment both during the visits and at the clinics where animals are delivered. Many small animals from different places of Lithuania are brought by their owners referred by the local veterinary doctors. They usually refer animals that are ill with more rare diseases which require more complicated equipment or specialists of higher qualification in order to establish a diagnosis. In this way students can see more complicated cases and more sick animals. Veterinarians working in production sector are directly involved in the formation of students’ practical skills during their practices (clinical, laboratory). State Food and Veterinary Service and University Career Centre help students find a proper place and competent supervisor to carry out their practices. Before leaving for practice students receive respective tasks outlining what they must learn during the practice. In private clinics students also compile materials for their final works while preparing course papers, publishing articles in the publications of the Students’ Scientific Association. Part of the students trains themselves with private veterinarians not only during their practices but also in their free time, and some of them have employed themselves as medics and nurses (most often those who have acquired a speciality of veterinary paramedic in the college). State Food and Veterinary Service helps students perform laboratory practice in the National Food and Veterinary Risk Assessment Institute and other units which are under its subordination. Several specialists from the State Food and Veterinary Service have been employed as part-time employees in LUHS VA where they read lectures for students studying Veterinary Pathology, Veterinary Medical Law. Occasionally veterinarians-practitioners who work in the Zoo, poultry farms, fur animal farms and clinics of small and exotic animals are invited to read some problematic lectures for students too.

Centre of Pathology exercises a computerized accounting of performed necropsies, reports on necropsies are completed and inserted in the folders.

Dr. L. Kriauciūnas Small Animal Clinic introduced a computer programme in which all patients of the Clinic are entered, case-studies completed and reports prepared in line with the requirements set by the State Food and Veterinary Service for animal marking and vaccination. All computer data about SFVS reports and medications used for the treatment etc. are accessible only to the managers of the clinics and their deputies, whereas all other information about animal treatment and history is available only to veterinary doctors performing the treatment. Paper copies of the case-studies are placed in the folders and are always accessible to students who are on duty or to students who write their final theses.

Patients in Large Animal Clinic are registered in the patient registration log book, each of them is subject to a separate medical record in which a doctor performing the treatment makes all the entries or delegates this with due control to a student on duty. Case-studies are stored in a preparatory room of the Clinic where, under supervision of the teacher or veterinarian of the Clinic, a student can familiarize himself with entries in the medical record. When the owner takes back the animal, a fully completed medical record is transferred to the reception desk for storage. In the working hours of the reception desk students can receive medical records for the purpose of studies.

Currently a common computer programme is being prepared to enable centralized registration of animals, completion of medical records, writing off of the medications and etc. This will allow joining both clinics and other units that take part in diagnosing and treatment of animal diseases. Data will be available to pedagogical staff, doctors providing treatment, students, residents and doctoral students.
### 7.1.10 RATIOS

#### Table 7.5: Animals available for clinical training (in the clinics of the Faculty or seen through the Ambulatory clinic) as ratio to the number of students in the last full year of clinical training

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Description</th>
<th>Denominator</th>
<th>R 11:</th>
<th>R 12:</th>
<th>R 13:</th>
<th>R 14:</th>
<th>R 15:</th>
<th>R 16:</th>
<th>R 17:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 11:</td>
<td>no. of students graduating annually / no. of food-producing animals seen at the Faculty</td>
<td>80 / 102.3</td>
<td>1</td>
<td>1.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 12:</td>
<td>no. of students graduating annually / no. of individual food-animal consultations outside the Faculty</td>
<td>80 / 1039</td>
<td></td>
<td></td>
<td>12.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 13:</td>
<td>no. of students graduating annually / number of health herds</td>
<td>80 / 36</td>
<td></td>
<td></td>
<td></td>
<td>0.45</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 14:</td>
<td>no. of students graduating annually / no. of equine cases</td>
<td>80 / 192</td>
<td></td>
<td></td>
<td></td>
<td>2.4</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 15:</td>
<td>no. of students graduating annually / no. of poultry/rabbit cases</td>
<td>80 / 35</td>
<td></td>
<td></td>
<td></td>
<td>0.44</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 16:</td>
<td>no. of students graduating annually / no. of companion animals seen at the Faculty</td>
<td>80 / 4162.7</td>
<td></td>
<td>1</td>
<td>52.03</td>
<td></td>
<td>52.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 17:</td>
<td>no. of students graduating annually / no. poultry (flocks)/rabbits (production units) seen</td>
<td>80 / 8.7</td>
<td></td>
<td></td>
<td>0.11</td>
<td></td>
<td></td>
<td>0.11</td>
<td></td>
</tr>
</tbody>
</table>

#### Table 7.6: Animals available for necropsy in Pathology Centre (data of the past 3 years (2009-2011))

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Description</th>
<th>Denominator</th>
<th>R 18:</th>
<th>R 19:</th>
<th>R 20:</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 18:</td>
<td>no. of students graduating annually / no. necropsies food producing animals + equines</td>
<td>80 / 134</td>
<td></td>
<td>1.67</td>
<td>1.67</td>
</tr>
<tr>
<td>R 19:</td>
<td>no. of students graduating annually / no. poultry/rabbits</td>
<td>80 / 318.3</td>
<td></td>
<td>3.98</td>
<td>3.98</td>
</tr>
<tr>
<td>R 20:</td>
<td>no. of students graduating annually / Necropsies of companion animals</td>
<td>80 / 293</td>
<td></td>
<td>3.66</td>
<td>3.66</td>
</tr>
</tbody>
</table>
7.1.11 OTHER SPECIES

Students, who have selected a subject of „Infectious and non-contagious fish diseases and fisheries basics“, travel to AB „Išlaužo žuvis“ where they learn about the work of a veterinary surgeon in the fisheries sector. Students, who have selected Food Hygiene, travel to the company called „Iceco“ (former „Kraitenė“) where they learn about the work of a veterinary surgeon in a fish processing enterprise.

In Lithuanian Zoo students learn about the work of a veterinarian in the area of veterinary medicine of exotic animals, clinical diagnostics of diseases and animal welfare.

Students take samples in different places of animal keeping for their master works.

7.2 COMMENTS

Dr. L. Kriauceliunas Small Animal Clinic plans to buy new diagnostic equipment thanks to which it will be possible to provide better quality of the veterinarian services which the clients will not be able to receive in an ordinary veterinary surgery. At the same time, while being on duty in the Clinic, students will be able to acquire more knowledge in clinical diagnostics of the diseases and to elaborate knowledge about methods of applying diagnostic equipment.

It is planned that young veterinarians working in the clinic will continue improving their knowledge, qualification and will specialize in different areas (eye diseases, cardiology, gynaecology, and endocrinology). Clients will receive in the Clinic comprehensive consultations of several specialists at the same time instead of general information, and students will receive experience necessary in the veterinarian work.

A chemist’s shop opened in the clinic which also adds to the improvement of the quality of services. People here not only can obtain feed or other products but also to receive advice of competent veterinarians on questions of nutrition and treatment. Students can get different tools of work needed for studies and for work.

Agreements with homeless animal care organizations are made for the supply of veterinary services which increases the number of animals and diversity of clinical cases for students and a possibility to help street and stray animals. This helps strengthen students’ social attitude to the care of such animals.

There are 66 small animal veterinary clinics or surgeries in Kaunas District providing veterinary services, therefore patient flows have distributed across entire district. Knowing that only about 350 thousand people live in Kaunas, it becomes clear that the number of patients will only reduce.

The clinic had no specialist devoted to bird diseases, therefore clients were scarce. Exotic birds are not very popular among Lithuanian breeders, so it is natural that their number is not large. Often treatment of birds is more costly than the bird itself, therefore owners tend to do without treatment.

In Lithuania rabbits are more reared for meat, i.e. for production, but not as companion animals, thus few patients are brought to VA Dr. L. Kriauceliunas Small Animal Clinic. People do not allocate much money for the treatment of rodents and rabbits; they prefer to acquire a new animal. Even vaccination for many owners seems to be not necessary for the animal kept at home.

The number of cattle in the Faculty (Large Animal Clinic) last year was small due to several reasons:
1. Clinic was under reconstruction and we had no stalls to keep animals.
2. As in all other higher education institutions, a general problem is that cattle due to the status of infectious diseases (bovine viral diarrhoea, bovine infectious rinotracheitis) are treated in the farms, farmers are not interested to bring them to the clinics.
3. Over the last three years agriculture has been experiencing a big economic crisis, in particular in the equine sector, therefore calls to the patients dramatically decreased.

4. Until the present Large Animal Clinic could not sign with economic entities contracts on services due to unfavourable legislative base – neither clinics nor Veterinary Academy hold a status of the veterinary enterprise to allow provide full services to the farms. Because of that all activity of the clinic would confine only to clinical patients.

7.3 SUGGESTIONS

1. It is necessary to improve the qualification of specialists who are involved in the treatment of birds and exotic animals.

   At the present time one veterinarian resident works in Dr. L.Kriauceliūnas Small Animal Clinic, she elaborates her knowledge in diagnostics and treatment of bird diseases. More patients appeared in the Clinic. From 2012-2013, a discipline „Bird Diseases“ is introduced as an elective teaching subject for Veterinary Medicine students.

2. It is planned to increase the number of patients in both clinics of the Faculty.

   To increase the number of patients, Dr. L.Kriauceliūnas Small Animal Clinic negotiates on the possibility to make a contract with company „Kika“ for the provision of veterinary services to the clients who acquire pets in „Kika“ networks all over Lithuania. The first veterinarian consultation for such clients would be free of charge in Dr. L.Kriauceliūnas Small Animal Clinic. Company „Kika“ is the largest network of shops trading in zoological goods in Lithuania, it is also an official authorized representative of 30 other companies in Lithuania. All animals in „Kika“ shops must be regularly monitored by veterinary surgeons, therefore co-operation is useful for us. The Clinic concludes contracts with associations of homeless animals and animal welfare services on provision of veterinary services round the clock at the same time including students in the work.

   August of 2011 saw introduction of the Internet web site of the Clinic http://www.kriauceliunoklinika.lt/ offering to the clients more information on actions taking place in the Clinic and on the supplied services. Advertising has also increased the number of patients in the Clinic.

3. To take more active part in the actions of animal care, castration, sterilization and treatment.

   Each year the Clinic organizes actions („Days of Veterinarians“) together with the association of students at which students and veterinarians provide veterinary services thereby promoting VA, veterinarian profession and informing the society about the services supplied in the Clinic and Academy’s laboratory.

4. To develop services of providing veterinarian medications to clients. A chemist’s shop opened in the Clinic and it is planned to expand its range.

5. To pay more attention to the teaching of students about fish keeping, breeding and their diseases. A fish laboratory including aquariums is being created in the Large Animal Clinic.

6. To receive a status of the veterinarian enterprise.

   Already this year a compromise was found in collaboration with SFVS regarding the status of the veterinarian enterprise which will allow Veterinary Academy legally sign service contracts with economic entities and to provide full veterinarian services (including preventive measures as well). This year we intend to provide services to PTTC and independently transport sick animals to the clinics for treatment and demonstration. Later on this service will be extended to other farms located nearby.

7. To expand scopes of veterinarian, preventive, out-patient and in-patient rehabilitation services.
A centre for establishing breeding value has been designed within PTTC territory with plans to install an operating-room for horses and properly equipped rehabilitation premises (running track with water, solarium, physiotherapy procedures).

It is also planned to set up an embryo transplantation laboratory with an operating-room for cattle. Here embryos will be transplanted (a service on the scale of all Lithuania) and farm cattle operated on (without transporting them from surrounding farms due to hygiene status).

8. To improve infrastructure of Large Animal Clinic.

After reconstruction in the Large Animal Clinic cattle division will be separated from the equine division, animal reception and primary examination area, cattle operating-room and quarantine premises will be equipped.

9. It is necessary that teachers of clinical disciplines carry out competitive scientific research thereby increasing prestige and awareness of the clinics.

10. To form functional relationships of Large Animal Clinic and Dr. L.Kriauceliunas Small Animal Clinic with other units in order to improve effectiveness and quality.

11. To improve patient registration and flow management computer system.

12. To develop clinical and laboratory diagnostic services, preparation of healthiness programmes.

CHAPTER 8. LIBRARY AND LEARNING RESOURCES

8.1 FACTUAL INFORMATION
Goals

- To create a new “hybrid” type advanced university library – health information centre, where traditional and virtual services would be provided.
- To transform traditional library into a “learning tool”, where learning and research process could be performed at the library – starting from search for information up to the typography and binding of research work.

Figures

- Square 4076 m$^2$, brutto 4846 m$^2$
- User area 2300 m$^2$, staff area 450 m$^2$
- User seats 400, staff seats 39
- Archive: 512 m$^2$, shelves 4500 m, 550 000 vol.
- Open access area: shelves 2000 m, 125 000 vol.
- 2x80 m$^2$ conference and workshop rooms
- 3x40 m$^2$ group study rooms
- 40 m$^2$ multimedia room
- Computer lab, 56 seats
- Classroom for user training, 12 PC
- Cafeteria – 40 seats, staff kitchenette, shower

Structure 2011

- Acquisition and cataloging (acquisition – arrangement).
- Stocks/archives (stocks/collections - storage).
- Users’ service (loan, reading rooms, information desks).
- Library information systems (LIS administration, wireless network, VPN, ...).
- Information services (PDB, ETD, eLABa, DB subscription, ILL/IILL, educational courses, requests, web, ...).
- Veterinary sciences Library

Objectives for physical library

- Project and build library according to international university standards
- Organize open access to library holdings and periodicals
- Implement security control and self-checking system
- Make and equip problem-based study rooms
- Organize wide range of services (word processing, copying/printing, binding, teaching/training courses, ...)
- Auditoriums for users training, workshops, staff meetings
- Elevators for book transportation and for disabled
- Staff facilities (kitchen, shower, rest room)

Objectives for virtual library

- Extend physical collection with el. journals, textbooks and electronic reference databases
- Improve library information system (e-catalogue, ordering, reservation, circulation, VPN, ...).
- Develop Virtual Library.
- Integrate University information resources into National and International DB and search engines.

Figure 8.1: Technologies: Virtual Library

- LIS Aleph 18 ensures good cataloguing, search facilities, user-friendly interface.
- SFX delivers powerful linking services in the scholarly information environment and full text documents.
- MetaLib (library portal from Ex Libris) enables users to access their institution’s e-collections, obtain relevant services, and work in a personalized environment.
- PRIMO enables users to search library’s entire collection – both physical holdings and e-resources – through a single point of access, and to receive a single, relevance-ranked list of results.

Above mentioned ExLibris software products enable us to integrate University information resources (DB of scholar publications, ETD, e-catalogue) into National and International databases and search engines (google scholar).
RFID Security gates  3 way RFID sorter  Workpad station

Figure 8.2: **RFID system components**

Figure 8.3: **Self-service printing/copying**  
Gespage/Cartadis

**Services**

- Book loan
- Document reservation by the Internet
- Wireless network, Virtual Private Network (VPN)
- Book self check-in/check-out
- Interlibrary Loan*
- Information searching*
- Submission of e-publications to eLABa
- Submission of e-theses and dissertations to ETD IS
- eLABa repository
- Copying/printing/scanning*
- Poster layout and printing*
- Document binding*
- Compilation of sciences publications list
- Educational courses

* Fee-paying service

The library is open:

- I-V 8.00 - 22.30
- VI 10.00 - 20.00
- VII 10.00 - 18.00

Usage of the library – 2011

- Usage – 353088 units:
  - Loans – 128724; in reading rooms – 224364.
- Users – 6542.
- Visits:
  - per year – 311 985;
  - per month - 31 198;
  - per day -1 316; (On Saturdays – 211);
  - from 17.00 to 21.00 – 299.

Table 8.1: Use of the funds allocated by the University

<table>
<thead>
<tr>
<th></th>
<th>MA</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Univ. funds</td>
<td>777020,09</td>
<td>778231,09</td>
</tr>
<tr>
<td>Different projects</td>
<td>1211,00</td>
<td>229 555,66</td>
</tr>
<tr>
<td></td>
<td>13 026,24</td>
<td>242 581,90</td>
</tr>
<tr>
<td>Periodicals:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign l.</td>
<td>68.139,27</td>
<td>80.379,78</td>
</tr>
<tr>
<td>Lithuanian l.</td>
<td>12,240,51</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 774,89</td>
</tr>
<tr>
<td>Databases:</td>
<td>194697,56</td>
<td>194697,56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1.053,308,43</td>
<td>246 356,79</td>
</tr>
</tbody>
</table>

Stocks - 2011 01 01

- Open access – 132768 units.
  - Textbooks – 92616 units;
  - In reading rooms – 39442 units, among them:
    - 2114 – CD;
    - 710 – in Nursing literature library.
  - Archive – 644656 units; 207684 titles.
Subscriptions of databases

AccessMedicine
Annual Reviews
BMJ Journals
BMJ Clinical Evidence
Cambridge Journals Online
Cochrane Library (6)
Ebrary
EBSCO Publishing (10)
Emerald
Management eJournals Coll.
Grove Art Online
Grove Music Online
Henry Stewart Talks
LWW/OvidSP
MD Consult
Natural Medicines
Comprehensive Database
Nature Publishing Group
OUP: Oxford journals
Oxford Reference Online
PsycARTICLES
SAGE Publications Online
ScienceDirect
Science Online
SpringerLink
Taylor & Francis
UpToDate
Wiley Online Library (Wiley-Blackwell)

The Virtual Private Network (VPN) is network services, which allow Lithuanian Health Sciences University students to safely connect to the University computer network. After signing up for the VPN, you can browse all the subscribed databases from your home computers. To use these services, the VPN must be installed on your computer.

Subscription databases

Data on DB subscribed by the LUHS Data and Information Centre

Table 8.2: In 2011, 47 databases were subscribed (26 +21 (EBSCO-10, Cochrane-7 and MD Consult-7))

<table>
<thead>
<tr>
<th>Database</th>
<th>In total publications</th>
<th>FT magazines</th>
<th>FT e-books</th>
<th>Journals with ISI</th>
<th>Reviewed journals</th>
<th>Unique publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Access Medicine</td>
<td>64</td>
<td></td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Annual Reviews</td>
<td>25</td>
<td>25</td>
<td></td>
<td>17</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>3. BMJ Clinical Evidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. BMJ Journals</td>
<td>33</td>
<td>33</td>
<td></td>
<td>22</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5. Cambridge Journals</td>
<td>48</td>
<td>48</td>
<td></td>
<td>31</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>6. Cochrane Library (7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Ebrary</td>
<td>6878</td>
<td></td>
<td>6878</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. EBSCO Publishing (10)</td>
<td></td>
<td>15228</td>
<td>1972</td>
<td></td>
<td></td>
<td>4325</td>
</tr>
<tr>
<td>9. Emerald Management</td>
<td>141</td>
<td>141</td>
<td></td>
<td>26</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>10. Grove Art Online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>11. Grove Music Online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
You can find more databases on the Library's website: http://naujas.kmu.lt/index.php?cid=809

Statistical analysis of the subscribed databases

- Pursuant to the data, all databases contain 23 023 journals (including not all EBSCO, just FT journals);
- If to include only unique EBSCO journals, it would be 12 120) and 7 478 books (if to include also 1972 books indicated by EBSCO, it would be 9 450 books).
- 106 597 copies of articles have been downloaded from Databases (statistics of some Databases for not a full year).

Table 8.3: Statistical analysis of the subscribed databases

<table>
<thead>
<tr>
<th>No.</th>
<th>Databases</th>
<th>Sessions</th>
<th>Searches</th>
<th>Summaries</th>
<th>Articles</th>
<th>Period of loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Annual Reviews</td>
<td>781</td>
<td>731</td>
<td></td>
<td>495</td>
<td>January-December</td>
</tr>
<tr>
<td>2</td>
<td>BMJ Journals</td>
<td></td>
<td></td>
<td></td>
<td>6101</td>
<td>January-December</td>
</tr>
<tr>
<td>3</td>
<td>EBSCO Publishing (10)</td>
<td>1707</td>
<td>18355</td>
<td>2814</td>
<td>2489</td>
<td>January-December</td>
</tr>
<tr>
<td>4</td>
<td>Emerald Management eJournals Collection</td>
<td>683</td>
<td>101</td>
<td>683</td>
<td>January-December</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Cambridge Journals Online</td>
<td></td>
<td>886</td>
<td>896</td>
<td>January-December</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>LWW/Ovid SP</td>
<td>3218</td>
<td>4601</td>
<td></td>
<td>4406</td>
<td>January-December</td>
</tr>
<tr>
<td>7</td>
<td>Nature Publishing Group</td>
<td>364</td>
<td>386</td>
<td></td>
<td>2809</td>
<td>January-December</td>
</tr>
<tr>
<td>8</td>
<td>OUP: Oxford journals</td>
<td>480</td>
<td>5731</td>
<td></td>
<td>5738</td>
<td>January-December</td>
</tr>
<tr>
<td>9</td>
<td>PsycARTICLES</td>
<td>175</td>
<td>761</td>
<td>21</td>
<td>53</td>
<td>January-December</td>
</tr>
<tr>
<td>10</td>
<td>SAGE Publications Online</td>
<td></td>
<td></td>
<td></td>
<td>2714</td>
<td>January-December</td>
</tr>
<tr>
<td>11</td>
<td>ScienceDirect</td>
<td>15030</td>
<td>10779</td>
<td>12488</td>
<td>45166</td>
<td>January-December</td>
</tr>
<tr>
<td>12</td>
<td>Science Online</td>
<td>119</td>
<td></td>
<td></td>
<td>144</td>
<td>January-August</td>
</tr>
<tr>
<td>13</td>
<td>SpringerLink</td>
<td></td>
<td></td>
<td></td>
<td>12828</td>
<td>January-November</td>
</tr>
</tbody>
</table>
Table 8.4: **Statistical data on the loan of subject databases for 2011 (19/01/2012)**

<table>
<thead>
<tr>
<th>Database</th>
<th>Sessions</th>
<th>Searches</th>
<th>Summaries/pages/hits</th>
<th>Full text documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>In total:</td>
<td>42925</td>
<td>40315</td>
<td>28264</td>
<td>106597</td>
</tr>
</tbody>
</table>

Table 8.5: **Price of some DB articles (data taken from LMBA statistical data).**

<table>
<thead>
<tr>
<th>No.</th>
<th>Database</th>
<th>Price of the article Lt</th>
<th>Position among all subscribers</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annual Reviews</td>
<td>33,38</td>
<td>3 (6)</td>
<td>Refused</td>
</tr>
<tr>
<td></td>
<td>BMJ Journals</td>
<td>24,61</td>
<td>2 (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cochrane Library</td>
<td>7,65</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LWW/OvidSP</td>
<td>5,06</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MD Consult</td>
<td>29,78</td>
<td>1 (2)</td>
<td>Refused</td>
</tr>
<tr>
<td></td>
<td>Nature Publishing</td>
<td>11,01</td>
<td>2 (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OUP: Oxford journal</td>
<td>0,92</td>
<td>1 (13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PsycARTICLES</td>
<td>93,59</td>
<td>10 (11)</td>
<td>Refused</td>
</tr>
<tr>
<td></td>
<td>SAGE Publications</td>
<td>38,36</td>
<td>12 (14)</td>
<td>Refused</td>
</tr>
<tr>
<td></td>
<td>ScienceDirect</td>
<td>8,99</td>
<td>5 (13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science Online</td>
<td>75,09</td>
<td>4 (5)</td>
<td>Refused</td>
</tr>
<tr>
<td></td>
<td>SpringerLINK</td>
<td>5,49</td>
<td>3 (14)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wiley Library</td>
<td>8,4</td>
<td>2 (11)</td>
<td></td>
</tr>
</tbody>
</table>

**Library educational/training programme**

- Introduction to LIS: guided tour.
- Scheduled courses.
- Drop-in courses.
- Curriculum integrated courses:
  - 1st term students – Introduction to the library e. resources;
  - 4th term students (faculty of medicine) – EBM (lecture 1 acad. h) and teaching/training 3 acad. hrs. (MEDLINE, Cochrane Library, Clinical Evidence);
  - 1st year doctoral degree students – programme “Biomedical Databases and searching techniques”.

Table 8.6: **TBA**

<table>
<thead>
<tr>
<th>Orders</th>
<th>Quantity (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders received for article copies and books. Of them:</td>
<td>732</td>
</tr>
<tr>
<td>Orders checked but copies not ordered (upon refusal by the client)</td>
<td>140</td>
</tr>
<tr>
<td>Negative replies</td>
<td>11</td>
</tr>
<tr>
<td><strong>Fulfilled orders:</strong></td>
<td>581</td>
</tr>
</tbody>
</table>
Table 8.7: Courses and teaching material

<table>
<thead>
<tr>
<th>Courses and teaching material</th>
<th>Associated students</th>
<th>Classes</th>
<th>Acad. hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short courses</td>
<td>181</td>
<td>39</td>
<td>78</td>
</tr>
<tr>
<td>Courses integrated in the teaching curricula</td>
<td>290</td>
<td>29</td>
<td>63</td>
</tr>
<tr>
<td>Other courses (RefWorks)</td>
<td>34</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Instructions for the first year students</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In total:</td>
<td>505</td>
<td>71</td>
<td>213</td>
</tr>
</tbody>
</table>

Teaching material MEDLINE DB and a booklet prepared for a quick search MEDLINE DB. Exhaustive teaching materials adapted to information specialists and students of biomedicine have been prepared for work in the bibliographical entries management programme RefWorks.

Table 8.8: Excursions

<table>
<thead>
<tr>
<th>Excursions and poster number</th>
<th>Excursions</th>
<th>Participants</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory excursion for the first-year students</td>
<td>30</td>
<td>154</td>
<td>26</td>
</tr>
<tr>
<td>Guests of the library</td>
<td>13</td>
<td>154</td>
<td>26</td>
</tr>
<tr>
<td>In total:</td>
<td>43</td>
<td>154</td>
<td>41</td>
</tr>
</tbody>
</table>

Note: 3 excursions for the guests were provided in Lithuanian, 4 – in English and 6- in Russia languages.

Exhibitions and posters - 72
46 working posters; of them 4 exhibitions (16 posters)
26 paid posters/banners

As of 3 March 2011, LUHS launched Virtual Network (VPN)
LUHS virtual network VPN (Virtual Private Network) - is a network service that enables University staff and students safely connect to the University's computer network. Logged in to the VPN, you can browse through all the library subscribed databases from home.

LUHS Library and Information Centre
Address: Eivenių str. 6, LT - 50162, Kaunas

Library and Information Centre
Veterinary Academy Sciences
Address: Tilžės str. 18,
LT - 47181, Kaunas
Tel. (8 37) 36 33 45

Usage of library – 2011
- Usage –136 237 units;
- Users – 1884;
- Visits per year – 45532;
- Users – 6542.

The study process is implemented with the help of the library and other units of the University. LUHS library accumulates traditional information sources, ensures access to online information resources thereby creating conditions necessary for science and learning while providing to an academic community information services that guarantee availability of information needed to prepare specialists of the highest level.

THE GENERAL READING ROOM
54 workplaces, among them 14 with computers.
Offers textbooks, teaching material of all the subjects taught at the University, dictionaries, encyclopaedias.
Offers extensive resources of journals, newspapers, electronic information. Offers access to the Internet, e-mail. Copying, printing services.

LEARNING RESOURCE READING ROOM
12 workplaces, 3 of them with computers.
Offers dictionaries and manuals, encyclopaedias, atlases, reference materials, dissertations, summaries of dissertations. It provides access to electronic resources.
Offers access to the Internet, e-mail, databases, CD-ROMs. 3 computers at the location provide access to electronic resources. Copying, printing services.

LENDING DEPARTMENT
Textbooks, offers scholarly, reference, teaching materials. At the Lending Department you may search in electronic catalogues.
Order the reading material over the e’catalogue beforehand: http://biblioteka.lya.lt
Opening hours: 8.00 – 20.00.

Services
- Book loan
- Document reservation by the Internet
- Wireless network, Virtual Private Network (VPN)
- Interlibrary Loan
- The subsidiary library has a direct correlation with the main library
- Information searching
- Submission of e-publications to eLABa
- Submission of e-theses and dissertations to ETD IS
- eLABa repository
- Copying/printing/scanning
- Compilation of information on study and research material
- Educational courses
- Wireless network
- Information service: Ask the librarian

Table 8.9: Use of the funds allocated by the University

<table>
<thead>
<tr>
<th></th>
<th>MA</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Un. funds</td>
<td>777020,09</td>
<td>778231,09</td>
</tr>
<tr>
<td>Different projects</td>
<td>1211,00</td>
<td>229 555,66</td>
</tr>
<tr>
<td></td>
<td>242 581,90</td>
<td>13 026,24</td>
</tr>
</tbody>
</table>
A library is a centre of information and learning compiling an exhaustive base of both printed and online information resources. The trend that part of student independent work in the library is increasingly growing is becoming more and more vivid, and the library is a convenient space for learning and an inseparable partner in the organization of the study process.

Library's information system is created and updated on the regular basis. It is a complex entirety of information search tools reflecting information on collected documents, publications prepared by the scientists, defended master's theses and doctoral dissertations, subscribed, tested databases (DB) or other online resources.

The main information:
- In the web site

### Table 8.10: Statistics of the LUHS LIC Veterinary Department

<table>
<thead>
<tr>
<th>Periodicals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In foreign l.</td>
</tr>
<tr>
<td>In Lithuanian l.</td>
</tr>
<tr>
<td>Databases:</td>
</tr>
</tbody>
</table>

| | 12,240.51 | 3,774.89 |
| | 194,697.56 | 3,774.89 |
| | 1,053,308.43 | 246,356.79 |

**LUHS LIC VA library fund:**
- Physical copies 136,237
- Titles 35,483

| Received in a year (physical copies/titles) | 1,840 / 515 |
| Written off in a year (physical copies/titles) | 20,636 / 3,131 |

<table>
<thead>
<tr>
<th>Periodicals / titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of them newspapers 10 / 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funds to acquire library documents in 2011 in Lt</th>
</tr>
</thead>
<tbody>
<tr>
<td>246,356.00</td>
</tr>
</tbody>
</table>

| Number of registered users | 1,884 |
| Number of visits | 45,532 |
| Documents released | 45,148 |
| Interlibrary lending of documents (received/lent) | 75 / 20 |
| Entries of the Catalogue and Publications DB | 39,009 |
| Of them: prepared in automated way in total / a year | 19,591 / 1,654 |

**Electronic services:**
Number of titles of received periodicals accessible on the spot and acquired via distance access 18,623
- Number of downloaded documents 1,937
- Number of Internet sessions 106,755

| Training of users | 45 val. |
| Information requests | 1,700 |
| Copies made by the visitors (pages A4) | 29,180 |
| VA staff (jobs/employees) | 9.5 |
| Money received for paid services VA | 8,465.70 |

<table>
<thead>
<tr>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
</tr>
<tr>
<td>Of them: exhibitions 23</td>
</tr>
<tr>
<td>Work stations for readers, of them: 86</td>
</tr>
<tr>
<td>- computerized 20</td>
</tr>
<tr>
<td>- with connection 68</td>
</tr>
</tbody>
</table>
In the general library catalogue – http://aleph.library.lt
- In the publications database (PDB)
- In the electronic theses and dissertations database (ETD)
- In subscribed databases

**Subscription of databases**

In 2011, the library of the Veterinary Academy (VA) subscribed 26 databases. The statistical table provides a DB use analysis. Some of the publishers of the databases treat the library of LUHS as one institution without distinguishing the VA library.

It is in particular important that LUHS LIC subscribed databases in the VA library can be used by the users through VPN (Virtual Private Network). Thanks to this network, it is possible to connect from workplaces to the University subscribed databases from distance which opens bigger possibilities of access to information.

Table 8.11: Databases

<table>
<thead>
<tr>
<th>No.</th>
<th>Databases</th>
<th>Sessions</th>
<th>Searches</th>
<th>Summaries</th>
<th>Articles</th>
<th>Period of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Annual Reviews</td>
<td>781</td>
<td>731</td>
<td></td>
<td>495</td>
<td>January-December</td>
</tr>
<tr>
<td>2</td>
<td>BMJ Journals</td>
<td></td>
<td></td>
<td></td>
<td>6101</td>
<td>January-December</td>
</tr>
<tr>
<td>3</td>
<td>EBSCO Publishing **</td>
<td>335</td>
<td>4280</td>
<td>380</td>
<td>275</td>
<td>January-December</td>
</tr>
<tr>
<td>4</td>
<td>EDP*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>January-December</td>
</tr>
<tr>
<td>5</td>
<td>Emerald Management eJournals Collection**</td>
<td>166</td>
<td>593</td>
<td>121</td>
<td>1161</td>
<td>January-December</td>
</tr>
<tr>
<td>6</td>
<td>Cambridge Journals Online</td>
<td></td>
<td>886</td>
<td></td>
<td>896</td>
<td>April-December</td>
</tr>
<tr>
<td>7</td>
<td>LWW/Ovid SP</td>
<td>3218</td>
<td>4601</td>
<td></td>
<td>4406</td>
<td>January-December</td>
</tr>
<tr>
<td>8</td>
<td>Nature Publishing Group</td>
<td>364</td>
<td>386</td>
<td></td>
<td>2809</td>
<td>January-November</td>
</tr>
<tr>
<td>9</td>
<td>OUP: Oxford journals</td>
<td>480</td>
<td>5731</td>
<td></td>
<td>5738</td>
<td>January-December</td>
</tr>
<tr>
<td>10</td>
<td>PsycARTICLES</td>
<td>175</td>
<td>761</td>
<td>21</td>
<td>53</td>
<td>January-December</td>
</tr>
<tr>
<td>11</td>
<td>SAGE Publications Online</td>
<td></td>
<td></td>
<td></td>
<td>2714</td>
<td>January-December</td>
</tr>
<tr>
<td>12</td>
<td>ScienceDirect **</td>
<td>1452</td>
<td>1493</td>
<td>1634</td>
<td>4460</td>
<td>January-December</td>
</tr>
<tr>
<td>13</td>
<td>Science Online</td>
<td>119</td>
<td></td>
<td></td>
<td>144</td>
<td>January-August</td>
</tr>
<tr>
<td>14</td>
<td>SpringerLink</td>
<td></td>
<td></td>
<td></td>
<td>12828</td>
<td>January-November</td>
</tr>
<tr>
<td>15</td>
<td>Taylor&amp;Francis</td>
<td>633</td>
<td>536</td>
<td></td>
<td>465</td>
<td>May-December</td>
</tr>
<tr>
<td>16</td>
<td>Wiley Online Library**</td>
<td>948</td>
<td>2136</td>
<td>909</td>
<td>2421</td>
<td>January-December</td>
</tr>
</tbody>
</table>

**In total:** 7827 15975 10068 44966

Note:
* - no statistical data on the use has been received from publishers
** - VA library’s statistics

Table 8.12: Comparative statistics of the LUHS LIC MA and VA

<table>
<thead>
<tr>
<th></th>
<th>Received in 2011</th>
<th>Written off in 2011</th>
<th>In total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MA</strong></td>
<td>5630 copies/840 titles</td>
<td>9589 copies/788 titles</td>
<td>644656 copies/207684 titles</td>
</tr>
<tr>
<td><strong>VA</strong></td>
<td>1840 copies/515 titles</td>
<td>20636 copies/3131 titles</td>
<td>136237 copies/35483 titles</td>
</tr>
</tbody>
</table>

Table 8.13: Use of the funds allocated by the University

<table>
<thead>
<tr>
<th></th>
<th><strong>MA</strong></th>
<th><strong>VA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Books:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Un. funds</td>
<td>777,020.09</td>
<td>778,231.09</td>
</tr>
<tr>
<td>Different projects</td>
<td>1211.00</td>
<td>229,555.66</td>
</tr>
<tr>
<td>Periodicals:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In foreign l.</td>
<td>68,139.27</td>
<td>80,379.78</td>
</tr>
<tr>
<td>In Lithuanian l.</td>
<td>12,240.51</td>
<td>3,774.89</td>
</tr>
<tr>
<td>Databases:</td>
<td>194,697.56</td>
<td>Free of charge</td>
</tr>
<tr>
<td>In total</td>
<td><strong>1,053,308.43</strong></td>
<td><strong>246,356.79</strong></td>
</tr>
</tbody>
</table>

8.2 COMMENTS

**Weaknesses of the LUHS LIC VA division:** the library of the VA division, as a unit of the LUHS LIC, differs in its modernization level, conditions and quality of provided services;

**Main tasks for their solution:**
1. **To modernize the system of the library’s funds** while increasing access to open funds, introducing **new RFID (Radio Frequency Identification) technologies**, replacing the current barcode technology and to entirely automate processes of publication release, return and protection through the restructuring of the library’s funds and reconstruction of the premises;
2. To introduce a copying-printing self-service project;
3. To install 2 rooms (reading rooms) for the fulfilment of group tasks by the students;
4. To update the library’s computer technical database;
5. To increase the quantity of funds in order to acquire the library’s documents;
6. To improve the level of information literacy of the library’s users.

**Strengths:**
1. VA students avail themselves of the services of the modern, contemporary LUHS LIC (central library)
2. VA library is unique in its funds of documents. This is the largest library in Lithuania compiling its funds in line with study programmes of veterinary medicine, animal husbandry and food safety. The library is the only one in the country to contain sole copies of scientific books. It regularly updates a specialized fund of educational literature.
3. The trend that part of student independent work in the library is increasingly growing is becoming more and more vivid, and the library is a convenient space for learning and an inseparable partner in the organization of the study process. The library situates in a study block, therefore it is convenient for students to use it during the breaks.
4. As of 2011, more attention is paid to information literacy of the students. Each new library user must take part in the training of the library. Also all the first-year students receive 2
academic hours of lectures on the library's information resources and possibilities to use them. The level of students’ information literacy is growing.

5. The library takes part in the eMoDB.LT project whose continuity provides a possibility to use databases of the world level: to collect, analyze and use valuable information in one’s own work. Students take active interest in the possibility offered by VPN – access to the databases from homes.

8.3 SUGGESTIONS

Automation of the most frequent processes such as release and return of books would reduce the lines, employees would be able to afford more attention to visitors, and therefore, the quality of services would significantly improve. Introduction of publication identification and protection technologies would make the library compatible with the standards of the modern libraries. Introduction of the copying-printing self-service project would allow paying more attention to the quality of information supply. Using the premises in the library’s lobby would make it possible to install for students 2 rooms with computerized workplaces so that they can perform group tasks and have conditions to use Multimedia and other tools necessary to prepare for the tasks. At the present time, students lack educational literature in some subjects, therefore the budget for the acquisition of documents must be increased.

CHAPTER 9. STUDENT ADMISSION AND ENROLMENT

9.1 UNDERGRADUATE COURSES

9.1.1 UNDERGRADUATE STUDENT NUMBERS

767 students study in the Veterinary Medicine Programme, of them 392 are funded by the state, 122 pay for themselves, 248 are partly funded by the state. Method of funding of the students who entered university before 2009 depends on their learning outcomes. Well learning students (average of the semester - 8 scores) are in state-funded places, and those with lower averages are in a partly state-funded places and pay contributions of 520 LTL (150 Euros). Students who entered in 2009 and later are either state-funded students (they brought their „baskets“ by their entry score), and all others pay the entire tuition fee – 9137 LTL (2610 Euros) for the study years 1-4 and 12553 LTL (3587 Euros) for the study years 5-6.

Those who entered in 2009 and later are subject to the principle of rotation. A person whose studies of the first cycle or integrated studies are funded by the State shall, after the first two years of studies, lose state funding for studies if the mean of the results of his studies during an appropriate period is more than by 20 percentage points lower than the mean of the results of studies of an appropriate study programme. A person who loses state funding must pay for his studies a tuition fee fixed by a higher education institution and his state-funded student place shall be taken by a person whose study results in a student place which is not funded by the state are the best. (Law on Higher Education and Research, 30 April 2009, No XI-242, and “Procedure for establishing and comparing averages of the outcomes of the students of the first-cycle and integrated studies approved by LUHS Senate resolution No. 9-10 of 27 May 2011 and resolution No.18-05 of 10 February 2012).

For the entrants of 2012 the rotation will be carried out not after 2 study years but each year.

Part of students who pay for studies will receive back the amount of the tuition fee that they pay for studies.
Part of the persons in the student places of the first cycle or integrated studies, which are not funded by the State, who finished with the best results the first two academic years and the remaining academic years, shall be compensated for the tuition fee paid for the studies during an appropriate period (a part of the fee which does not exceed the standard tuition fee). After the first two years of studies compensation shall cover the tuition fee paid by a person during an appropriate period of time (a part of the fee which does not exceed the standard tuition fee). Upon the completion of the studies, compensation shall cover the tuition fee (a part of the fee which does not exceed the standard tuition fee) paid for the period from the third year of studies until the end of the first cycle of studies or the end of the integrated studies (in the case of extended studies – for the other half of the study programme). Consecutive orders of persons who finished with best results the first two academic years and the remaining academic years in the student places which are not funded by the State shall be set in the manner prescribed by a higher education institution according to the study fields.

The number of persons in a specific study field of a higher education institution, who finished with the best results the first two years of studies or the remaining academic years shall be proportionate to the number of persons who were admitted to the state-funded student places of such study area in an appropriate year of admission. The overall number of persons for whom the tuition fee is compensated does not exceed 10% of the number of persons who, in that academic year, finished studies of the first two academic years or the remaining academic years in the state-funded student places of studies of the first cycle or integrated studies. (Law on Higher Education and Research No. XI-242, 30 April 2009, Article 71. Reimbursement of the tuition fee).

Students who have already completed one higher education institution (including a non-university institution too) pay all the price of the tuition fee if in a previous higher education institution they did not pay for studies. They are not subject to compensation either.

Table 9.1a: Composition of undergraduate students in year prior to visitation

<table>
<thead>
<tr>
<th>Total number of undergraduate students</th>
<th>767</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of male students</td>
<td>201</td>
</tr>
<tr>
<td>Total number of female students</td>
<td>561</td>
</tr>
<tr>
<td>Foreign students</td>
<td></td>
</tr>
<tr>
<td>from EU countries</td>
<td>5</td>
</tr>
<tr>
<td>from non-EU countries</td>
<td></td>
</tr>
</tbody>
</table>

Table 9.1b: Funding of students in the courses

<table>
<thead>
<tr>
<th>I course</th>
<th>II course</th>
<th>III course</th>
<th>IV course</th>
<th>V course</th>
<th>VI course</th>
</tr>
</thead>
<tbody>
<tr>
<td>sf</td>
<td>95</td>
<td>102</td>
<td>60</td>
<td>44</td>
<td>45</td>
</tr>
<tr>
<td>nsf</td>
<td>53</td>
<td>20</td>
<td>37</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>psf</td>
<td>9</td>
<td>44</td>
<td>86</td>
<td>56</td>
<td>53</td>
</tr>
<tr>
<td>In total:</td>
<td>148</td>
<td>131</td>
<td>141</td>
<td>134</td>
<td>107</td>
</tr>
</tbody>
</table>

sf - state-funded; nsf – not state-funded; psf – partly state-funded

9.1.2 STUDENT ADMISION

Admission of students is done in accordance with general provisions of the rules for general admission (Law on Higher Education and Research No. XI-242, 30 April 2009, Article 52). Admission to a higher education institution to undergraduate and integrated studies at Lithuanian higher education schools (LAMA BPO) and admission rules approved by the Senate of LHUS. Candidates holding at least secondary education or equivalent education certified by respective documents can take part in competition.
The most important admission criterion is a competition score. A competition score is calculated summing up multiplications of the grades received in competitive teaching subjects (recalculated) and respective leverage coefficients. Competitive disciplines are as follows: biology, chemistry, Lithuanian language – Matura examinations and a foreign language (English, French, Russian, German) – a yearly grade. If there are assessments of two foreign languages, the higher assessment will be included. In case of entrants whose Matura Certificate has no Matura examination or a yearly grade in competitive subject, the grade in that subject is deemed to be „zero” and they are allowed to take part in the competition (as of 2009, in case of entrants whose Matura Certificate has no Matura examination grade in a competitive subject, a result of the non-taken Matura examination is replaced by a yearly grade in a respective competitive teaching subject in the formula of the competitive score). While selecting a higher education school and study programmes, a school graduate positions them at his own discretion by priorities; there were twenty of them until 2008 (from 2008 – sixteen, and from 2010 – twelve).

\[
KB = \sum_{i=1}^{4} P_i \times K_i + PB
\]

Figure 9.1: Formula of competitive score

A competitive score is calculated by summing up (of recalculated) annual grade of the Matura examinations in competitive teaching subjects like biology, chemistry, Lithuanian language and foreign language multiplied by respective leverage coefficients (Figure 1) and additional scores, i.e.:

If there is an evaluation of two foreign languages, the higher grade will be taken.
If there is no grade of the Matura examination in a competitive subject (except of the examination of biology) or annual grade in the Matura Certificate, it will be deemed that the grade of this subject is “zero”, and they will be allowed to take part in the competition.

The number of applicants and the number of those admitted to studies: over the period between 2006 and 2010, the Programme of Veterinary Medicine Studies was chosen by 2966 school-leavers, 559 school-leavers in average. Each year the number of entrants is about 150. 2011 was the year in which the number of applicants to studies was the largest – 1123, the least number was in 2007 – 505. Ratio between the admitted students and applicants in the last five years was 1: 4,3.

A limit to the number of students admitted each year. The number of students is limited (no more than 200) and each year it is discussed in the Faculty, Rectorate and Senate. The number of students to be admitted is set with regard to the need for specialists, existing material base and human resources. The number of students is determined by the number of existing auditoriums, laboratories, their size, quantity and qualification of pedagogical and ancillary staff, quantity and diversity of animals necessary for studies, a possibility to conclude agreements with animal breeders, food processing, forage, pharmacy and other companies, private animals clinics, as well as by a possibility to provide students with places in dormitories.

The priority to state-funded student places pursuant to study programmes of the first cycle and integrated study programmes is given to enrolling persons according to their capabilities which are determined by taking into account the results of Matura examinations, learning and other outcomes, as well as special capabilities. A consecutive order of persons who have completed a secondary education programme with the best results shall be determined by the Ministry of Education and Science.

State-funded student places according to study programmes of the first cycle and integrated study programmes shall be allocated to higher education institutions in accordance with the choice between higher education institutions made by enrolling persons who have completed the secondary education programme with the best results, without exceeding state funding established for each study area. Distribution of funding for study fields shall be established by the Government, taking into account the needs of the national economic, social and cultural development and financial possibilities of the State (No. XI-242, 30 April 2009).

Each year Minister of Education and Science of the Republic of Lithuania, while implementing a respective paragraph of the Law on Science and Studies, approves the number of state-funded places (“baskets”) for different study areas. Veterinary Medicine is attributed to the area of biomedicine sciences which includes life sciences, groups in the fields of agricultural and veterinary sciences with study programmes implemented in different universities.

For the last two years this area received 497 baskets each year. Students applying for Veterinary Medicine compete for the baskets in the entire group of fields (pursuant to the possessed competitive entrance score) with those entering to the abovementioned study programmes (fields of life sciences, agriculture). In this way, those entering programmes of the said study fields „take away“ baskets to respective programmes of university studies. As we know, there are very popular study programmes which in this case could collect all state-funded places, but this does not happen, because each study programme can accept no more than 100 % of state-funded places in comparison with the last year’s plan of student adoption; starting from this year, a higher education institution itself decides how many students it can teach in a respective programme. For example, in 2011 entrants to Veterinary Medicine “brought” 97 state-funded places.

Additional scores according to the resolution of the Ministry of Education and Science are granted to the entrants who are winners of the first-third prizes in national and international Olympiads and competitions. Winners of the first prize receive 3 additional scores, winners of the second prize - 2, and winners of the third prize -1 score.
About 97% of the students admitted to the first year have completed schools of general education: secondary schools and gymnasiums. A small number of students already possess a speciality of the veterinary paramedic or diplomas of other university or non-university education institutions. About 10% of the entrants enter not the same year on which they graduate from general education schools, but one or more years later, after coming from jobs or other activities.

Students who had previously studied in a Veterinary Medicine Programme, but terminated their studies due to different reasons, are admitted to higher courses. A person eliminated from the list of students may renew studies only subject to the decision of the Rector and approval of the Rectorate.

A person repeatedly admitted to studies may start studies from 1 September or from the beginning of spring semester. The period of the beginning of studies and the list of studied disciplines is indicated by the admission commission and validated by the Rector’s order.

If after termination of studies changes in a study programme make no more than 20%, the person may be admitted to a higher course (semester) providing a one-year period for the liquidation of differences; in case of bigger changes in the study programme a decision is taken at the Rectorate on the proposal of the dean of the Faculty.

A person repeatedly admitted to studies may apply to the study place of that funding form from which he was eliminated; a person eliminated from a state-funded place may be admitted to a partly state-funded place if there are vacant state-funded seats in that course of the study programme.

Some subjects are included for the graduates of the colleges (non-university studies training veterinary paramedics) and thus a student may be transferred to a higher course, but most often this does not happen, because of inclusion of subjects of general university education; and programmes of the subjects of special education greatly differ in scope and (credits) and content. The same applies to graduates of other university studies, only subjects of general university education are usually included (subjects of humanities, social and natural sciences).

The number of students admitted to the Veterinary Medicine Programme over the last 5 years did not differ significantly, therefore minor fluctuations in the number caused no difficulties. Questions on provision of the Programme with material and human resources are considered at the Faculty Council, Rectorate and, if necessary, at the Senate. Measures to improve material base and employees’ qualification are envisaged in the strategic plan. Changes in the number of students in the Veterinary Medicine Programme have a bigger impact on the employment of teachers, in that case their work load increases or decreases, new teachers are employed or teachers are dismissed if the number of students drops down. Layoffs of teachers are rare, because there should be more teachers instructing in the Programme than now. Most often teachers or employees of the pension age are dismissed. Subjects of the speciality are taught in senior courses in which the number of students is already smaller.

Since there is also a Faculty of Animal Husbandry within the Veterinary Academy with a significantly reduced number of students over the last 5 years (a drop by nearly 90%), many auditoriums and laboratories were vacated and employment of teachers in general university education and animal production has also reduced, therefore teachers easily adapt to the slides of the number of students in the Veterinary Medicine Programme.
Table 9.2: **Intake of veterinary students in the past five years**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number applying for admission</th>
<th>Number admitted</th>
<th>Other entry mode (describe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1123</td>
<td>171</td>
<td>5*</td>
</tr>
<tr>
<td>2010</td>
<td>582</td>
<td>148</td>
<td>4</td>
</tr>
<tr>
<td>2009</td>
<td>562</td>
<td>116</td>
<td>3</td>
</tr>
<tr>
<td>2008</td>
<td>541</td>
<td>175</td>
<td>6</td>
</tr>
<tr>
<td>2007</td>
<td>505</td>
<td>157</td>
<td>9</td>
</tr>
<tr>
<td>Average</td>
<td>662.6</td>
<td>153.4</td>
<td>5.4</td>
</tr>
</tbody>
</table>

In 2011, 5 students were admitted to the Veterinary Medicine Programme which was implemented in English language. In 2008-2010, several students, who due to different reasons had earlier terminated their studies at the University, were admitted to higher courses.

9.1.3. **STUDENT FLOW**

Table 9.3: **Student flow and total number of undergraduate veterinary students**

<table>
<thead>
<tr>
<th>Number of students present after admission to the first year</th>
<th>Number of additionally admitted students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>137</td>
</tr>
<tr>
<td>2nd year</td>
<td>112</td>
</tr>
<tr>
<td>3rd year</td>
<td>94</td>
</tr>
<tr>
<td>4th year</td>
<td>96</td>
</tr>
<tr>
<td>5th year</td>
<td>86</td>
</tr>
<tr>
<td>6th year</td>
<td>72</td>
</tr>
<tr>
<td>&gt;6th year</td>
<td></td>
</tr>
<tr>
<td>Number undergraduate veterinary students</td>
<td>597</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>79</td>
</tr>
<tr>
<td>2010</td>
<td>69</td>
</tr>
<tr>
<td>2009</td>
<td>99</td>
</tr>
<tr>
<td>2008</td>
<td>83</td>
</tr>
<tr>
<td>2007</td>
<td>70</td>
</tr>
<tr>
<td>Average</td>
<td>80</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>134</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd year</td>
<td>112</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd year</td>
<td>94</td>
<td>30</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th year</td>
<td>96</td>
<td>24</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th year</td>
<td>86</td>
<td>15</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th year</td>
<td>72</td>
<td>19</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;6th year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Students are transferred to a higher course after completing all the programme of the current year. They may re-sit the examination (according to the Law on Science and Studies and according to Studies Regulation) one time free of charge. Sessions or examination time are extended for students due to important reasons. A school year is divided in semesters; autumn semester – from 1 September to 31 January, spring semester – from 1 February to 30 June.

The dates for taking the examination of module in the module’s schedule; if a student did not take a module’s examination because of good reasons or if the student took a module’s examination but failed, he/she will be able to take/re-take the examination of modules listed in the syllabus of autumn semester once on receiving permission of the head of the department/clinic/institute/module not later than before January 31; the examination of modules listed in the syllabus of spring semester – not later than before June 30. Later the Faculty’s dean (at the student’s request) may extend the duration of taking/re-taking of the examination until March 1 for the autumn semester and October 1 for the spring semester on receiving permission of the head of the department/clinic/institute/module; there will be no fees charged for such repeated taking of the examination.

If by the indicated dates, in absence of justifiable causes, a student does not sit an examination or fail it, he/she will be left to repeat the subject/module subject to the mediation of the unit and Faculty's dean and following the advice of the Rectorate: a decision is validated by the Rector's order.

Students sit complex examination of 9 modules in the Programme (previously called as state examinations), which cover practical and theoretical parts and are taken before the commission which is formed of at least 5 teachers.

Students of the sixth course are allowed to defend the final work only after passing all examinations and credits of the programme.

Students leave the course if they are expelled or lose one study year when they repeat the subject of the course or temporarily suspend studies due to academic holidays (Studies Regulation).

Exclusion from the list of students:
1. Studies are terminated if a studying person is excluded from the list of students.
2. The following students are excluded from the list of students:
   3.1. Those who have not fulfilled the curriculum of studies by the end of the registration term for the semester studies;
   3.2. Those who are not willing to continue studies at the University;
   3.3 Those who have not paid for the studies in due time stipulated in the contract;
   3.4. Those who have made very severe violations of the University Statute, acts of internal rules and the procedure as provided in clause 38 of the Regulations;
   3.5. Those who have committed crimes and have been sentenced according to the laws of the Republic of Lithuania;
   3.6. Foreigners with respect to whom a decision has been passed obliging them to depart from the Republic of Lithuania;
   3.7. Foreigners with respect to whom a decision has been passed on their deportation from the Republic of Lithuania;
   3.8. In other cases provided for in the legal acts of the Republic of Lithuania.
4. The permission to exclude a student from the list of students is, at the Dean’s proposal, given by the Rectorate and legitimated by the Rector’s decree at any time of the academic year.
5. The person excluded from the list of students must make full settlement with the University in accordance with the procedure approved by the Rector.
6. The person excluded from the list of students can renew the studies only by the resolution of the Admission Commission of the students to the University:
   6.1. The person can address the Admission Commission only on expiry of one year after the date of his/her exclusion from the list of students;
6.2. The person admitted to studies can repeatedly start the studies from 1st September or the beginning of the spring semester. The term for the beginning of studies and the list of subjects to be studied are indicated by the Admission Commission and legitimated by the Rector’s decree.

7. At the request of the student excluded from the lists, the University may issue an academic certificate in which the subjects studied, their volumes and assessments (grades) are indicated.

**Temporary cancellation and renewal of studies:**

1. A student can temporarily cancel and renew the studies. He/she can be given an academic leave, a maternity leave and a leave for bringing up a child.

2. At the student’s request, an academic leave, a maternity leave and a leave for bringing up a child are, at the Dean’s proposal, granted by the Rectorate and legitimated by Rector’s decree:
   
   2.1. An academic leave can be granted to students at any time of an academic year for a term of one year upon indicating the cause for cancellation of studies, duration of the academic leave and the beginning for the renewal of studies;
   
   2.2. Students can be granted an academic leave for a term of one year and not more than three times during the period of studies; at the student’s request, if the programmes of studies are not changed, the Rector can, at the Dean’s proposal, extend or terminate the academic leave;
   
   2.3. A maternity leave is granted to students at any time during an academic year in accordance with the laws of the Republic of Lithuania;
   
   2.4. Upon expiry of the term of a maternity leave, a student must renew studies; if she cannot study, she is entitled to receive a leave for bringing up a child;
   
   2.5. A leave for bringing up a child is granted to the mother or father in accordance with the laws of the Republic of Lithuania;
   
   2.6. A student must return from the leave for bringing up a child not later than the time indicated in the Rector’s decree.

3. If the student granted an academic leave, a maternity leave or a leave for bringing up a child does not renew the studies at the time indicated in Rector’s decree, he/she is excluded from the list of students.

**Repeated studies:**

1. Studies are repeated in case of the following academic failures:
   
   1.1. The failed examinations of subjects/modules of more than 10 credits in semester and lack of intermediate or final credit tests;
   
   1.2. Failed examination of the subject/module whose term of re-taking has been extended once by the Rector’s order following the clause 72.4 herein;
   
   1.3. The failure is not liquidated during repeated studies.

2. Repeated studies are legitimated by the Rector’s decree at the Dean’s proposal, except in cases stipulated in clause 72 of this Regulation; mandatory subjects/modules to be repeated are indicated.

3. A student can study repeatedly the following:
   
   3.1. The whole programme of one year of studies;
   
   3.2. The whole programme of one semester;
   
   3.3. One or several subjects/modules of the same year.

4. When the student repeats one or several subjects, he cannot study other subjects at the same time, provided their studies need skills and knowledge of the repeated subjects.

5. Repeated studies are subject to payment, except in the cases when documents justifying the non-fulfilment of the study program are available. A student starts to study repeatedly having paid the fee and received the Dean’s permit; the volume to be repeated is indicated.

5.1. In the event of repeated studies of the programme of the semester or academic year, the head of the department (clinic/institute/module) can acknowledge the works performed, the credit
tests and examinations passed earlier if the student asks so and if the programme of the subject has not changed much;

5.2. If only certain individual subjects/modules are studied repeatedly, the works performed, the colloquies or credits passed earlier are not acknowledged. 78. Students can repeat the same semester or course not more than two times.

9.2 COMMENTS

Majority (about 90%) of the first-year students enter immediately after the school of general education, therefore the primary level of their knowledge is the same. Recent school knowledge help them faster dive in the university studies. However, in the sense of motivation and experience while selecting a speciality they suffer, because they have never tried working in a similar area. It is true that quite many students follow their parents and select the same profession.

Based on the procedure for general admission to higher education institutions, students can indicate in the application 12 study programmes in which they would like to study in the priority order; in many cases this fact proves a lack of motivation. Admission is also influenced by profiling of the general education schools, we think that a student has not been properly prepared, because quite many students after school graduation want to change the area of studies. Many entrants originate from cities. City schools prepare students for entering higher education institutions better than rural schools.

About 153 students enter the Veterinary Medicine Programme year by year.

Such a number of students is provided with enough auditoriums, laboratories, rooms, pedagogical and ancillary staff. Teachers’ load of work with students is big, thus research work suffers. There is a lack of large animals in the clinic, therefore new agreements are constantly concluded with farms and other clinics. Two years ago PTTC belonged to LVA, later it became a public enterprise, and this year it will be again joined to the University and we think we will compensate shortage of the cases of cattle diseases while teaching the students.

At the present time we feel a big lack veterinary surgeons in Lithuania, because the graduates employ themselves mostly in veterinary surgeries of large cities or they leave for work in foreign countries. Veterinary surgeons are mostly missed in the regions, for the work in large animal clinics, in the network of SFVS, less - in the pharmacy network, small animal clinics and food enterprises.

Veterinary Medicine Programme is a popular programme, therefore fair numbers of students select it.

Veterinary Academy has and develops material base for the implementation of studies.

A body of qualified teachers and ancillary staff has been formed.

Funding, of course, is insufficient, in particular speaking about research works, but bigger number of students improve the lack of funding.

Quantity and area of premises per student was always sufficient in the Veterinary Academy and compared to other universities exceeded their numbers as much as by 10 times. The last decade all the premises in the Academy have been either renovated or are close to the completion of renovation and they are equipped with modern equipment.

The quantity of premises and facilities (classrooms, laboratories, rooms) in LUHS VA is entirely sufficient, as well as equipment and instruments in the departments and laboratories are adequate in order to ensure the sound quality of the study process.

Merger of LVA and KMU strengthened the material base of studies and enriched literature of biomedical scientific field in the new modern library.

The library is provided with teaching, research and methodological means required by the VM Programme.
Large-scale projects are implemented resulting in the granting of funds to improve the material base. Veterinary and Animal Husbandry institutes integrated in LVA offer a sound scientific base and animal resources (gene pool of racing horses, pigs, geese etc.).

Weaknesses:
Reconstruction of the Large Animal Clinic has not been completed.
Funds to acquire latest equipment are insufficient.

Ways of solution:
Equipment of the classrooms, teaching laboratories and other premises necessary for studies will be upgraded using the funds of 2011-2012 Nemunas Valley Project “Science of animal health, nutrition and animal raw materials, development of studies infrastructure and consolidation of scientific potential” and 2011-2013 Project „Upgrading of studies infrastructure and basic equipment while creating Lithuanian University of Health Studies“.

A Veterinary and Animal Husbandry Science and Studies Teaching Base (experimental farm with 500 places) will be constructed in LUHS PTTC (2013) and Breeding Value Determination Centre in which clinical premises (with facilities for procedures, surgery, rehabilitation and embryos transplantation) and all types of animal upkeep and quarantine areas will be installed.

Before November of 2013, Surgeries Testing Centre will be established within the premises of Large Animal Clinic and miniature pigs and testing dogs will be kept in PTTC as of that date.

Premises intended for public health studies and sciences will be built on LVA territory until November of 2013.

More funds are foreseen to be allocated to renovate Large Animals Clinic and buy ailing large animals.

New contracts are concluded with economic entities with the aim of forming practical skills of the students.

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

The system for monitoring the progress of studying persons includes a summary and analysis of student attendance and intermediate and final accounting results. Each semester the Dean submits a report at the Rectorate and Faculty sittings. The largest numbers of students are excluded during the first two study years which amounts from 16 to 33 %. In later years, numbers of the dropouts diminished. Of them 65 % leave on their own will and due to under-achievement. Usually those having lower competitive scores are excluded, but there are exceptions from that too. Part of the students due to illness, child care or difficult material situation take an academic one-year leave and they later return back to the lower course. Causes of the wastage are: lack of motivation (it may be that general admission to higher education institutions is of influence), difficult material family situation causing students to work which results in a failure to combine work and studies; poor knowledge in chemistry (it may be that profiling of schools could be of influence). In order to reduce the wastage, students are motivated, advised, provided with rational timetables; in justified serious circumstances they can account at different times, disciplines can be repeated, possibilities of taking an academic leave, changing the form and programme of studies are provided, subjects passed in another higher education institution are accepted and elective subjects are proposed (for example, general chemistry) to help address shortage of knowledge etc.

Almost 50 % of those admitted to the first year complete studies each year. Relatively this is a small number of graduating students. Studies could be extended to 6 years and cycles of subjects could be prolonged too. But in that case students paying all the amount of the tuition fee would have to pay for another semester of studies. Quite many students repeat subjects or take academic holidays, therefore they complete studies later.
9.3 SUGGESTION

Demand for veterinarian surgeons in Lithuania is high. The number of admitted students is sufficient for the Faculty. The Study Programme is popular. So far the number of entrants did not decrease due to demographical crisis. A smaller number of admitted students would improve their preparation, but would weigh the financial situation of the Faculty, which would again influence the quality of studies. It could be possible to adjust admission while trying to attract as many motivated graduates from rural areas as possible.

Large wastages of students, in particular in the first courses, shows that overall admission to higher education institutions possibly has a negative impact. Cause of the wastage is lack of motivation, under-achievement, difficult material situation, a broad and hard study programme, long studies, and family circumstances. It is intended to review the procedure for sitting examinations in the subjects which are lengthy.

To increase application of interactive and problem teaching methods.

The length of studies is 5,5 years, but about 20 % of students finish studies one or two years later. The course lasts for 5,8 years in average. It could be possible to think of the extension of studies to 6 years, but then studies would become more expensive.

CHAPTER 10. ACADEMIC AND SUPPORT STAFF

10.1 FACTUAL INFORMATION

<table>
<thead>
<tr>
<th>Table 10.1: Personnel in the establishment provided for veterinary training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgeted post (FTE)</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td><strong>1. Academic staff</strong></td>
</tr>
<tr>
<td>Teaching staff (total FTE)</td>
</tr>
<tr>
<td>Research staff (total FTE)</td>
</tr>
<tr>
<td>Others (veterinary surgeon) (FTE)</td>
</tr>
<tr>
<td>Total FTE</td>
</tr>
<tr>
<td>Total FTE (VS + NVS)</td>
</tr>
<tr>
<td>FTE providing last year teaching</td>
</tr>
<tr>
<td><strong>2. Support staff</strong></td>
</tr>
<tr>
<td>a) responsible for the care and treatment of animals</td>
</tr>
<tr>
<td>b) responsible for the preparation of practical and clinical teaching</td>
</tr>
<tr>
<td>c) responsible for administration, general services, maintenance, etc.</td>
</tr>
<tr>
<td>d) engaged in research work</td>
</tr>
<tr>
<td>Total support staff</td>
</tr>
</tbody>
</table>

**3. Total staff**

| 295.9 | 6 | 301.9 |
### Table 10.2: Allocation of academic (veterinary surgeon and non veterinary surgeon) teaching staff – expressed as FTE – and support staff to the various departments

<table>
<thead>
<tr>
<th>Department name</th>
<th>Academic teaching staff</th>
<th>Support staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prof. VS</td>
<td>Assoc. prof. VS</td>
</tr>
<tr>
<td>VETERINARY FACULTY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept. of Anatomy and Physiology</td>
<td>5 - 3.5 1</td>
<td>1.25 1 2</td>
</tr>
<tr>
<td>Dept. of Food Safety and Quality</td>
<td>5 - 1 2 4 0.25 -</td>
<td>- - 2.7 -</td>
</tr>
<tr>
<td>Dept. of Infectious Diseases</td>
<td>4.5 - 4.25 -</td>
<td>4 - - - - -</td>
</tr>
<tr>
<td>Dept. Of Non-infectious Diseases</td>
<td>4.5 - 6.75 0.5 4 - 1.5 - 1.7 -</td>
<td>- - - - 1</td>
</tr>
<tr>
<td>Dr. L. Kriauciūnas</td>
<td>- - - -</td>
<td>- - - -</td>
</tr>
<tr>
<td>Small Animal Clinic</td>
<td>- - - -</td>
<td>- - - -</td>
</tr>
<tr>
<td>Veterinary Faculty</td>
<td>- - - -</td>
<td>- - - -</td>
</tr>
<tr>
<td>Veterinary Institute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept. of Animal Nutrition</td>
<td>0.5 -</td>
<td>0.5 -</td>
</tr>
<tr>
<td>Dept. of Animal Husbandry</td>
<td>0.5 -</td>
<td>0.3 -</td>
</tr>
<tr>
<td>Biological Systems and Genetic Research Institute</td>
<td>0.25 -</td>
<td>- 0.5</td>
</tr>
<tr>
<td>Dept. of Animal Breeding</td>
<td>0.25 -</td>
<td>0.25 -</td>
</tr>
<tr>
<td>Dept. of Biochemistry</td>
<td>- - -</td>
<td>0.2 -</td>
</tr>
<tr>
<td>Dept. of Prophylactic Medicine</td>
<td>- - -</td>
<td>- -</td>
</tr>
<tr>
<td>Dept. of Physics and Mathematics and Biophysics</td>
<td>0.3 -</td>
<td>0.5 -</td>
</tr>
<tr>
<td>Department</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td>------------------------------------</td>
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</tr>
<tr>
<td>Dept. of Languages and Education</td>
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<tr>
<td>Dept. of Health Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept. of Social Sciences and Humanities</td>
<td></td>
<td>0.25</td>
</tr>
<tr>
<td>Sports Institute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vivarium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centre of studies</td>
<td></td>
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<tr>
<td>Career Centre</td>
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<tr>
<td>Rectorate</td>
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<tr>
<td>Library</td>
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<tr>
<td>Book-keeping and Accounting service</td>
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<td></td>
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<tr>
<td>Employees' Safety and Health Service</td>
<td></td>
<td></td>
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<tr>
<td>Document Management Service</td>
<td></td>
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<tr>
<td>Economic and Planning Service</td>
<td></td>
<td></td>
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<tr>
<td>Legal Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Division of Science</td>
<td></td>
<td></td>
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<tr>
<td>Personnel Service</td>
<td></td>
<td></td>
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<tr>
<td>Division of Academic Exchanges</td>
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<tr>
<td>Internal Audit Service</td>
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<tr>
<td>Public Procurement Service</td>
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<tr>
<td>VA Publishing Division</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service of Building Maintenance and Repair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Maintenance Division</td>
<td></td>
<td></td>
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<tr>
<td>Asset Management</td>
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</tbody>
</table>
The number of LUHS employees is set following LUHS Statute (Official Gazette, 2010, No. 81-4231). Composition of personnel is formed by the Rector assisted by LUHS Personnel Service (provisions of LUHS Personnel Service have been approved by Resolution No. 16-06 adopted by the LUHS Senate on 23 December 2011). Luhus employees are selected based on principles of selection and evaluation of employees of Lithuanian University of Health Science (approved by LUHS Senate Resolution No. 19-09 on 29 March 2012).

Heads of the Faculty units submit to Personnel Service documents for newly concluded contracts with teachers and scientific workers at least before the 20th of August. Labour contracts are adjusted upon the end of student admission, based on subparagraphs 14.1.-14.3. of the Regulation on calculating pedagogical load and labour wage fund of LUHS units (approved by LUHS Senate Resolution No. 16-16 on 23 December 2011).

Teachers and scientific workers, except scientists-probationers, are admitted to the post by way of public tender for the term of 5 years. To LUHS invited teachers and scientists may have only terminated contract not longer than for two full years. At least three months before the end of the term of the teacher or scientific worker, or in case of the vacancy, Rector, at the proposal of the head of the unit or Personnel Service, announces a public tender to take up the post or takes a decision regarding elimination of the post notifying of that the person who is in that post. LUHS academic and research personnel is attested every 5 years. Tenders and attesting of the personnel are organized and carried out in accordance with these documents:

- Procedure of Lithuanian University of Health Sciences for organizing competitions for the taking of the posts of teachers and scientific workers and for their attesting (approved by LUHS Senate Resolution No. 4-3 on 23 December 2010).
- Regulation on the election of the head of the department, institute and profile clinic of Lithuanian University of Health Sciences (approved by LUHS Senate Resolution No. 2-05 on 29 October 2010).
• Regulation on the election of the Faculty Dean (approved by LUHS Senate Resolution No. 2-05 on 29 October 2010).
• Regulation on the election of the director of the research institute of LUHS (approved by LUHS Senate Resolution No. 2-05 on 29 October 2010).
• Law on Science and Studies (Official Gazette, 2009, No. 54-2140).

If attested teacher/scientific worker does not comply with academic, scientific or practical activity criteria set for respective post, his academic activity is either finished or it is necessary to repeat attestation procedure in order to renew it, or the post is lowered by one academic stage. Decision concerning appointment of the teacher or scientific worker to the post (attestation) is taken by the Rector and the decision is executed in 10 days based on the decision of the Admission Commission (AC). Persons who were not elected during the tender, were not attested or did not submit an application to take part in the tender are dismissed following the procedure laid down by the labour laws.

Terminated labour contracts concluded by LUHS with employees encourage fluctuation of personnel. The main causes of the fluctuation of academic personnel are shifting of the employees to higher posts by way of tender, retirement and pregnancy, maternity, and child care leave. For example, during the recent five years, one of the professors and four docents of Veterinary Faculty retired, two docents and four lecturers were on the leave of pregnancy, child birth and child care; one professor who worked full-time, now works 0.5 FTE; admitted to work are: professor – 0.25 FTE, eight lecturers (3–1.0 FTE, 4–0.5 FTE and 1–0.25 FTE), 8 veterinary surgeons (7–1.0 FTE and 1–0.5 FTE); via the tender eleven docents were elected professors (one of them – 0.5 FTE), twelve lecturers work as docents (11–1.0 FTE and 1–0.5 FTE), two lecturers elected via the tender.

Changes of the work place are rare cases. For example, over the period of five years, nine lecturers left for another job in the Veterinary Faculty (5 lecturers who worked 1.0 FTE, 3–0.5 FTE and 1–0.25 FTE), one assistant and 5 veterinary surgeons. When employees leave, their positions are applied for by young scientists. Persons admitted to work in Veterinary Faculty are usually those who have already completed doctoral studies in LUHS. In general, it could be stated that teachers' fluctuation is relatively small and poses no threat to the quality of studies.

While receiving income for different services and project activity, the units can employ additional staff. Head of the unit submits a request to the Rector indicating the position and duration of employment and the source of funding. The Rector takes a decision regarding appointment of the employee to this position.

LUHS employees, following Labour Code of the Republic of Lithuania (Official Gazette, 2002, No. 64-2569), may work not only in the University. Duration of the working day for the employees working outside or inside LUHS under two or more labour contracts (including a break to rest and eat) may not exceed twelve hours.

Conditions are created for teachers and scientific workers to travel to internships, improve professional qualification, and take part in conferences or similar events. To this aim a special Open LUHS Fund was set up (provisions of the Open Fund of Lithuanian University of Health Sciences approved by LUHS Senate Resolution No. 8-10 on 15 April 2011); its main aim is to support financially LUHS employees who go to internships, wish to improve their professional qualification and take part in conferences or similar events abroad.

Teachers and scientific workers can be given creative holidays to complete their dissertations, write textbooks or due to other cases laid down by the laws and Article 182 of the Labour Code of the Republic of Lithuania (Official Gazette, 2002, No. 64-2569).

10.2 COMMENTS

Teachers, scientists and veterinary surgeons teach in Veterinary Medicine study programme. Following provisions of LUHS Veterinary Institute (approved by LUHS Senate Resolution No. 13-
02 on 30 September 2011), scientists of Veterinary Institute are entitled to participate in the studies. Veterinary surgeons working in VA clinics take part in the preparation of specialists in accordance with the provisions of dr. L. Kriauciūnienė Small Animal Clinic of LUHS Veterinary Academy and provisions of Large Animal Clinic of LUHS Veterinary Academy (approved by LUHS Senate Resolution No. 16-03 on 23 December 2011). 116 (70.25 FTE) teachers, 23 (16.25 FTE) veterinary surgeons and 19 (10.65 FTE) researchers of whom five (2.5 FTE) are employed using the money additionally earned in the unit, have been employed in the programme of Veterinary Medicine. 67 (56 FTE) Veterinary Faculty teachers, 23 (16.25 FTE) veterinary surgeons and 12 (6.4 FTE) researchers, 49 (14.25 FTE) other Faculty teachers and 7 (4.25 FTE) researchers of Veterinary Institute are involved in the teaching of the programme. Professors and docents make 52.7 per cent of the total academic workload of the staff of Veterinary Medicine programme (regulation requires at least 50 per cent); this testifies to the high qualification of academic personnel. Subjects instructed by the teachers of VM programme comply with the fields of their research activity. Ratio between the teachers and studying students in the school years of 2010 and 2011 met national requirements. Support staff of VM study programme is made of laboratory testers and technicians (32.5 FTE), animal caretakers and technical assistants (12.5 FTE) and employees who administrate studies (159.75 FTE).

The wage fund of academic personnel is calculated in accordance with Regulation on calculating academic load and wage fund of the units of Lithuanian University of Health Sciences (approved by LUHS Senate Resolution No 16-16 on 23 December 2011). Teachers’ salaries are not big in comparison with the average of the Republic, but they have been gradually growing (of course, inflation indicators should be taken into consideration). Salaries are differentiated in accordance with the positions taken and activity undertaken. A promotional system of the most active teachers and scientists has been introduced, 5 most active teachers are annually selected and awarded a supplement in the amount from 800 to 1500 Lt, premiums or bonuses are also paid for additional work. Salaries of veterinary surgeons involved in private practice are very different and depend on the contracts with State Food and Veterinary Service and on the number of patients. In the opinion of the chairman of the practice division of Lithuanian Veterinary Association, average salary of veterinary surgeons working in private sector in 2011 reached an average national monthly salary indicated by the Lithuanian Statistical Department.

Procedure for organizing tenders and for attesting of teachers and scientific workers of the University is in place to encourage competitiveness and improvement of LUHS. Teachers and scientific workers are admitted to the posts via the public tender for the term of 5 years. In case of the teacher's or scientific worker's vacancy, the Rector announces a public tender to take up a respective post at the proposal of the head of the unit or Personnel Service. Admission Commission approved by the Senate evaluates compliance of the attested person to qualification requirements, jointly discuss and take a decision by secret voting. Teachers and scientific workers are attested every 5 years according to the set procedure. However, an extraordinary attestation may be announced, if a teacher or scientific worker dishonestly executes delegated tasks, violates ethical norms of biomedical research or his moral features are not compatible with the concept of the member of academic community. Employees not attested are dismissed from their posts in accordance with the procedure laid down by the laws. Support staff is employed and dismissed from work following the Labour Code of the Republic of Lithuania (Official Gazette, 2002, No. 64-2569).

Of 97.15 jobs of academic personnel in VM study programme, employees holding the qualification of veterinary surgeon work 80.15 FTE. This makes 82.5 per cent of the total academic personnel. According Veterinary Medicine Regulation (LR MES 2006 m. January 19 d.Nr. ISAK-04) in Veterinary Medicine Study Programme up to 7% funds need to be delivered to the general subjects (eg. Filosofy, Biomatematics and Statistics, Agricultural Economy etc.). Therefore for teaching of general subjects are invited qualified teachers from LSMU different faculties.
10.3 SUGGESTIONS

Some young teachers lack knowledge of education. From 2011, education training for teachers was launched, therefore young teachers should be encouraged to participate in this training. Academic work could be distributed in the departments more rationally (for example, more scientific workers could be included in the study process).

CHAPTER 11. CONTINUING EDUCATION

11.1. FACTUAL INFORMATION

In Lithuania veterinary surgeons improve their qualification based on Order No B-897 issued by the Director of the State Food and Veterinary Service “On the procedure for the improvement of the qualification of veterinary surgeons holding a license of the veterinary surgeon“ on 28 December 2007. The Order sets out that in two years improvement of the veterinary surgeon must cover of at least 32 hours. Every two years a veterinary surgeon must complete declarations and submit them to territorial units of the State Food and Veterinary Service. Qualification improvement programmes must be registered with the Lithuanian Veterinary Association, Lithuanian Small Animal Veterinary Association, and Veterinary Pharmacy Association or with the State Food and Veterinary Service.

Veterinary Faculty of Veterinary Academy (VA) of Lithuanian University of Health Sciences (LUHS) takes active part in continuing education programmes and co-operates with the abovementioned organizations.

LUHS pro-rector for veterinary, Prof. A. Sederevičius directly supervises this area in the Veterinary Continuing Education and Consultation Centre (VTMKC), and president of Lithuanian Veterinary Association (LVSA) V. Bižokas is a professor of the Non-Infectious Diseases Department which enables the Faculty to maintain close connections regarding continuing education.

Veterinary Continuing Education and Consultation Centre is a unit of Lithuanian University of Health Sciences which executes professional continuing education of state and private veterinary surgeons, specialists in animal husbandry, other workers in this area, and agricultural workers. Pursuant to the demand and orders, it designs different education programmes, organizes training courses, seminars, conferences, field days and consultations.

The Faculty maintains active co-operation with Lithuanian Veterinary Association. This organization was created on public grounds and it unites veterinary surgeons.

All education programmes designed by Veterinary Continuing Education and Consultation Centre and taught by the teachers of the Veterinary Faculty are presented below (Table 11.1)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the education programme</th>
<th>Length of the education programme (hours)</th>
<th>Code of the education programme</th>
<th>Share of VF teachers’ contribution in the courses (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Healthiness of animals of economic purpose</td>
<td>24</td>
<td>296164106</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Transportation of animals under requirements of Council Regulation (EC) No. 1/2005</td>
<td>10</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Requirements for the exploitation and maintenance of mine and artesian wells</td>
<td>8</td>
<td>396185009</td>
<td>50</td>
</tr>
</tbody>
</table>
4 Quality and technological requirements for grain and grain products 16 296162137 50
5 Production of different non-traditional products with ingredients of milk origin 8 296176004 100
6 Production of non-matured ferment cheeses 8 296176003 100
7 Contemporary and culinary heritage technologies of production of salted, sun-cured and smoked meat products 16 296162065 20
8 Control over cow mastitis, treatment and prevention 8 - 50
9 Stunning and slaughter or killing of animals 32 - 55
10 Animal health and milk quality assurance 16 - 20

Events, courses, seminars and conferences organized by Veterinary Continuing Education and Consultation Centre in the period of 2008 - 2011:

1. “Implementation of the requirements for marking of food products and latest food handling requirements in Lithuania”, 7 academic hours (share of the teachers of VA Faculty in the courses made 40%).
2. “Economically important cattle parasitoses, economic losses and prevention”, 8 academic hours (share of the teachers of VA Faculty in the courses made 100%).
3. “Organization of the work of an animal seminator (biotechnologist)”, 8 academic hours (share of the teachers of VA Faculty in the courses made 100%).
4. „Requirements for the organization of catering in homesteads“, 8 academic hours (share of the teachers of VA Faculty in the courses made 20%).
5. „Actions of the state and private veterinary surgeon while executing control over foot-and-mouth disease, Newcastle disease and avian plague“, 8 academic hours (share of the teachers of VA Faculty in the courses made 50%).
6. „Evaluation and analysis of the condition of economic reproduction. Novelties in diagnostics, treatment and prevention of gynaecological diseases“, 24 academic hours (share of the teachers of VA Faculty in the courses made 25%).
7. „Investigation of trichinosis using a compressor and digestion method“, 8 academic hours (share of the teachers of VA Faculty in the courses made 100%).
8. Requirements for exploitation and maintenance of mine and artesian wells (share of the teachers of VA Faculty in the courses made 50%).
9. Stunning and slaughter or killing of animals (share of the teachers of VA Faculty in the courses made 100%).
10. Control over cow mastitis, treatment and prevention (share of the teachers of VA Faculty in the courses made 50%).

<table>
<thead>
<tr>
<th>Reg. No.</th>
<th>Date</th>
<th>Name</th>
<th>Organizer</th>
<th>No of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>085/LVA</td>
<td>2011 01 28</td>
<td>Effective use of veterinarian preparations for the treatment of reproduction diseases of the cattle Balanced nutrition of pigs and its influence on health and productivity of the animals in different age groups</td>
<td>Pfizer Animal Health</td>
<td>2.5</td>
</tr>
<tr>
<td>086/LVA</td>
<td>2011 02 20</td>
<td>Balanced nutrition of pigs and its influence on health and productivity of the animals in different age groups</td>
<td>AB &quot;Kauno grūdai“</td>
<td>5</td>
</tr>
<tr>
<td>087/LVA</td>
<td>2011 01 26-27</td>
<td>Assurance of animal health and milk quality</td>
<td>VCECC</td>
<td>16</td>
</tr>
<tr>
<td>088/LVA</td>
<td>2011.02.25</td>
<td>Problems of cow reproduction</td>
<td>LVA General Practice Section (GPS)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P/ Tamašauskas</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Description</td>
<td>Organizers/Partners</td>
<td>Page</td>
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<tr>
<td>------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>089</td>
<td>2011 03 15</td>
<td>Impact of technological processes on the quality of production</td>
<td>LVA Food Control Section (FCS)</td>
<td>6</td>
</tr>
<tr>
<td>090</td>
<td>2011 03 09</td>
<td>Immunity and mastitis</td>
<td>G.Januškevičienė, UAB &quot;Sundoros veterinarija&quot;</td>
<td>2</td>
</tr>
<tr>
<td>091</td>
<td>2011 03 17</td>
<td>Implementation of the program for the control of animal contagious diseases in 2011 and use of vet. information management system</td>
<td>Utėna district, SFVS</td>
<td>4</td>
</tr>
<tr>
<td>092</td>
<td>2011 03 31</td>
<td>Peculiarities of feeding the horses. &quot;Mervue&quot; products.</td>
<td>LVA GPS and UAB &quot;Dimela Lietuva&quot;</td>
<td>5</td>
</tr>
<tr>
<td>093</td>
<td>2011 04 08</td>
<td>Ecology and safety of food production</td>
<td>LVA FCS G.Januškevičienė</td>
<td>6</td>
</tr>
<tr>
<td>094</td>
<td>2011 04 13</td>
<td>Diagnosing trichinosis. Measures on detecting trichinosis</td>
<td>LVA FCS and Šakiai d. SFVS</td>
<td>6</td>
</tr>
<tr>
<td>095</td>
<td>2011 04 28</td>
<td>Endemic contagious cattle diseases: pathogenesis, diagnostics and prevention</td>
<td>UAB &quot;Vetfarmas&quot;</td>
<td>4</td>
</tr>
<tr>
<td>096</td>
<td>2011 05 05</td>
<td>Veterinary practice in industrial swine-breeding</td>
<td>UAB &quot;Vetma&quot;</td>
<td>5</td>
</tr>
<tr>
<td>097</td>
<td>2011 05 27</td>
<td>Diagnosing of trichinellosis in meat</td>
<td>Zarasai d. SFVS</td>
<td>3</td>
</tr>
<tr>
<td>098</td>
<td>2011 06 03</td>
<td>Conference of GP doctors – Syndrome of cattle decline and causes of diarrhoea of calves</td>
<td>LVA GPS J.Gintautas</td>
<td>7</td>
</tr>
</tbody>
</table>

Projects carried out by Veterinary Continuing Education Centre over the period of 2008 - 2011:

Projects under the Rural Development measure of the plan for 2007–2013 „Vocational training and information actions”, “Education and training of persons engaged in agriculture or forestry sectors”:

“Education of farmers and rural inhabitants under education programmes “Basics of beekeeping for amateur beekeepers”, „Ecological apiculture“; and “Novelties in apiculture“ (share of the teachers of VA Faculty in the courses made 30%).

„Ecological method for the prevention and treatment of reproductive disorders of cows using the light of the laser“ (share of the teachers of VA Faculty in the courses made 100%).

Courses of continuing education were also instructed by Lithuanian Veterinary Association. However, the bigger part of teachers in them were not teachers of the Veterinary Faculty but outsourced teachers from abroad, private veterinary surgeons or representatives of pharmacy companies. Over the period of 2011 – 2013, the Association delivered 13 courses, and employees of the Veterinary Faculty participated only in three of them.

It is very important that lectures in the continuing courses are read and practical exercises are carried out by a sufficient number of experienced veterinary surgeons – practitioners from abroad.

During the last three years (2009 - 2012) seminars were delivered by Dr. G. Haar (Netherlands), Dr. A. Pomianowski (Poland), X. Manteca (Spain), Prof. E. Gruys (Netherlands), Dr. D. Cronin (Ireland), Dr, M. Kohler, Dr. C. Duprre (Germany). Lithuanian veterinary surgeons received a lot of knowledge at these seminars. Conditions are created for practical internships of veterinary surgeons in Dr. Kriaučiūnas Small Animal Clinic, Veterinary Academy.

**Quality assessment:**

After each course participants are subject to knowledge checks. In order to receive certificates, veterinary surgeons must pass examinations.
Lecturers of the courses are also assessed after each course. They are rated by the participants of the courses. Special questionnaires have been designed for this purpose.

11.2 COMMENTS

Information provided above proves that teachers instructing at the Veterinary Faculty of VA, LUHS, made up from 20% to 100% of all teachers in the courses delivered to veterinary surgeons. Teachers instructing in the courses receive a feedback from their former graduates, because teachers, based on submitted questions and animal treatment cases, form their opinion about knowledge and abilities obtained by the graduates, improvement of their qualification, application of the latest diagnostic and treatment methods. On the other hand, such co-operation allows teachers receive from course participants information on the problems faced by veterinary surgeons in their veterinary practice. Teachers of the courses can generalize practical – clinical cases, interpret and comment them for course listeners and students.

Teachers of the Faculty were sufficiently qualified. Of them 8 (36.4%) were professors, 12 (54.5%) – associate professors or doctors of sciences. Majority of the courses over the last 5 years were devoted to courses in the area of treatment and prevention of gynaecological diseases and mastitis. Quite many courses were devoted to the treatment of small animals and equine eye diseases.

Implemented courses show that majority of them were general courses which were organized by Veterinary Faculty jointly with Lithuanian Veterinary Association and Veterinary Continuing Education and Consultation Centre. But continuing courses are carried out mostly thanks to the initiative of private teachers who teach in the courses. They take part in the preparation and consideration of the course programme.

In continuation education courses intended to veterinary surgeons of Lithuania the quality is maintained by the fact that these courses are instructed by known foreign veterinary surgeons – practitioners who have immense clinical experience.

The quality of the qualification of veterinary surgeons is significantly strengthened by the checks of their knowledge after each course.

Assessment of course teachers enables selection of the best lecturers. Often assessments of teachers are carried out selectively.

In general it could be stated that simple assessment methods are applied for the evaluation of course participants and teachers. Acknowledged quality assessment systems is not in place to allow broader analysis of the results obtained.

11.3 SUGGESTIONS

1. It is proposed to apply universally recognized quality assessment systems for continuing education courses of veterinary surgeons in order to analyse the knowledge of course participants in more detail and improve the quality of the courses;

2. Veterinary faculty and organisations facilitating the courses should co-operate closer while preparing continuing education courses for veterinary surgeons.

3. More courses should be delivered on other topics which are currently relevant, particular regard being given to the risk of contagious diseases spreading in Europe.

4. To improve the quality assessment system in order to be able to analyse the supply and demand of the courses and the quality of their organization and implementation.
CHAPTER 12. POSTGRADUATE EDUCATION

12.1 FACTUAL INFORMATION

12.1.1 CLINICAL SPECIALTY TRAINING (INTERNS AND RESIDENTS)

In veterinary medicine practice specialists with the qualification of the veterinary surgeon of a more narrow type (speciality) are becoming more and more often required. Veterinary Medicine Residency Studies – are university studies which do not award a degree of the third cycle and they are intended for a veterinarian doctor who has completed integrated veterinary medicine studies and seeks to obtain a qualification of the veterinary doctor of the type (speciality) of veterinary medicine practice. Veterinary residency study programmes are of the applied character, oriented to practical activity, improving abilities of practical and scientific-research work and awarding professional qualification of the veterinary doctor’s profession. Veterinary residency studies develop veterinary doctors-specialists capable of applying knowledge, skills and abilities in practical work. Training of Veterinary Medicine residents in Lithuania started in 2006.

General procedure for the implementation of Veterinary Medicine residency studies is established by the provisions of Veterinary Medicine residency studies (approved by LR Government Resolution No. 206 on 23 February 2004). The right to implement Veterinary Medicine residency studies is given to Veterinary Academy of Lithuanian University of Health Sciences. Residency studies are implemented under the regulation prepared based on the said provisions and Regulation of Residency Studies approved by the Senate of the University (Resolution No. 13-01, 30 September 2011). The Regulation was designed in accordance with LR Government Law on Research and Studies (Official Gazette, 2009, No. 54-2140), LR Government Resolution „On the approval of the provisions of Veterinary Medicine Residency Studies “ (Official Gazette, 2004; No. 30-992), LR Minister of Education and Science and LR Minister of Health Order “On the approval of the requirements for residency study programmes of residency studies of medicine, odontology and veterinary medicine and of the provisions for the selection and evaluation of the bases for residency studies (Official Gazette, 2004, No. 98-3661). LR Government Resolution “On the funds of the budget of the Republic of Lithuania allocated to pay a tuition fee for state-funded study places and on the approval of the description of the procedure for the repayment of their part to the state budget of the Republic of Lithuania” (Official Gazette, 2009, No. 120-5153), LR Government Resolution “On the approval of the description of the procedure for the amendment of the study programme for the person studying in a state-funded place ” (Official Gazette, 2009, No. 121-5234).

The length of the training of the veterinary surgeon under state veterinary and clinical veterinary specialities is 2 years. The scope of residency studies is not higher than 120 ECTS credits; at least 50 % of this scope is made of the practical part. Form of residency studies is full-time studies, way of organization – day-time studies. Residency is comprised of theoretical part and resident’s professional activity practice which is divided into the cycles of subjects, preparation and defence of the final work. Over 50 % of the residency programme’s theoretical study scope is taught by professors and associate professors; the fields of their scientific activity must comply with the subjects instructed by them. The cycles are headed by residents’ supervisors who are teachers of the University holding a working career of at least 5 years under professional qualification. Having fulfilled a residency programme a resident defends his final work and is assessed in the qualification commission. After defence of the final work a resident is awarded a qualification of veterinary doctor-specialist and receives a residency certificate.

The curriculum of residency studies is established by the residency programme intended to acquire a respective qualification of the veterinary doctor-specialist. Residency programmes are registered following the procedure laid down by the Ministry of Education and Science. Residency
studies in Veterinary Medicine are carried out in the Veterinary Faculty and consist of 11 programmes.

Table 12.1: Types of residency programmes offered

<table>
<thead>
<tr>
<th>No.</th>
<th>State code of the Programme</th>
<th>Residency programme</th>
<th>Length of studies (years)</th>
<th>Awarded qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>733D20001</td>
<td>Veterinary surgery</td>
<td>2</td>
<td>Veterinary doctor-surgeon</td>
</tr>
<tr>
<td>2.</td>
<td>733D20002</td>
<td>Veterinary hygiene of animal products</td>
<td>2</td>
<td>Veterinary doctor of hygiene of animal products</td>
</tr>
<tr>
<td>3.</td>
<td>733D20003</td>
<td>Veterinary parasitology</td>
<td>2</td>
<td>Veterinary doctor parasitologist</td>
</tr>
<tr>
<td>4.</td>
<td>733D20004</td>
<td>Veterinary virusology</td>
<td>2</td>
<td>Veterinary doctor virusologist</td>
</tr>
<tr>
<td>5.</td>
<td>733D20005</td>
<td>Veterinary microbiology</td>
<td>2</td>
<td>Veterinary doctor microbiologist</td>
</tr>
<tr>
<td>6.</td>
<td>733D20006</td>
<td>Veterinary pathology</td>
<td>2</td>
<td>Veterinary doctor pathologist</td>
</tr>
<tr>
<td>7.</td>
<td>733D20007</td>
<td>Veterinary obstetrics and gynaecology</td>
<td>2</td>
<td>Veterinary doctor gynaecologist</td>
</tr>
<tr>
<td>8.</td>
<td>733D20008</td>
<td>Veterinary clinical haematology and toxicology</td>
<td>2</td>
<td>Veterinary doctor haematologist-toxicologist</td>
</tr>
<tr>
<td>9.</td>
<td>733D20009</td>
<td>Veterinary epidemiology</td>
<td>2</td>
<td>Veterinary doctor epidemiologist</td>
</tr>
<tr>
<td>10.</td>
<td>733D20010</td>
<td>Veterinary genetics</td>
<td>2</td>
<td>Veterinary doctor geneticist</td>
</tr>
<tr>
<td>11.</td>
<td>733D20011</td>
<td>Veterinary therapy of internal diseases</td>
<td>2</td>
<td>Veterinary doctor therapeutics</td>
</tr>
</tbody>
</table>

Cooperation with other institutions

Residents have possibilities to execute part of residency programmes in other Lithuanian or foreign universities or their clinical bases under bilateral agreements concluded by the University. Veterinary Academy has close relationships with many foreign higher education institutions. Cooperation of the Academy covers the following areas:

- Bilateral co-operation agreements;
- Individual projects of the departments or scientific laboratories of the Academy;
- International conferences, symposiums abroad and in the Academy;
- Projects of different international programmes.

Admission procedures for national students

Applications of general admission to residency studies are submitted only by the Internet via the on-line system of service for entrants to Lithuanian higher education institutions. The form of the application is placed on the web site of this system (http://www.rezidentura.lt).

Data on the diploma or their supplements awarded for integrated studies in 2012 go to the on-line system of service for entrants directly from the data bases of the universities; those entrants who have completed integrated studies earlier than in 2012 must submit diplomas and supplements to the diplomas to the commission of admission to residency studies of Lithuanian University of Health Sciences. The application may include up to 6 requests to any of the residency study programmes in the order of priority. At the time of the main admission only one place funded by the state/not funded by the state may be occupied (if such a place was planned). The invited person may accept the proposal by signing the agreement on state-funded/not funded by the state residency studies with the University. If, after the main admission stage, there are vacant state-funded places
of residency studies, additional admission is organized only for persons who did not take part in the main admission:

- If the agreement on state-funded places of residency studies is already signed with the University, participation in the additional admission is not allowed;
- If the agreement on not state-funded places of residency studies is already signed with the University, it is possible to take part in the additional admission only for state-funded places;
- If no invitation to study in residency has been received or accepted, it is possible to take part in the additional admission both for state-funded and not state-funded places in residency studies.

A new application is submitted for the additional admission. If after the main and additional admission stages there remain vacant not state-funded places in residency studies, competitions to these places are organized by each University separately.

Entrants to Veterinary Medicine residency study programmes are subject to the mandatory evaluation of motivation.

Competitive scores are calculated according to competitive score formulas indicated in the University conditions of 2012 admission to residency studies.

### Table 12.2: Principles of drawing competitive waiting queues

<table>
<thead>
<tr>
<th>Field of the residency study programme</th>
<th>Level of preparation of the admitted persons</th>
<th>Selection criteria, additional scores</th>
<th>Formula of the competitive score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Medicine</td>
<td>Veterinary Medicine Master, Veterinary surgeon (DVM)</td>
<td>Average of the assessments enumerated in the supplement to the diploma, evaluation of scientific activity, average of the score for motivation interview.</td>
<td>A competitive score is made of the sum of two parts multiplied by respective leverage coefficients: – arithmetic mean (leverage coefficient 0,7) of the grades of the supplement to the diploma (without the assessment of the profession's practical qualification examination or final work) – grade of the profession's practical qualification examination or final work (leverage coefficient 0,3); sum of the grades for the assessment of scientific activity (up to 2 scores) and motivation interview assessment (up to 5 scores).</td>
</tr>
</tbody>
</table>

Priority in case of collecting the same amount of scores is given to those who have a higher score for scientific activity.

Residency costs are funded from the appropriations of the state budget of the Republic of Lithuania which are allocated to the University. A resident studying in a state-funded place receives state support – a stipend for residency studies.

### Table 12.3: Admission results for the period of the years from 2006 to 2011

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th></th>
<th>2007</th>
<th></th>
<th>2008</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quota</td>
<td>10</td>
<td>Applications submitted</td>
<td>5</td>
<td>Accepted</td>
<td>10</td>
<td>Applications submitted</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>10</td>
<td>Applications submitted</td>
<td>22</td>
<td>Accepted</td>
<td>10</td>
<td>Applications submitted</td>
</tr>
<tr>
<td>2010</td>
<td>11</td>
<td>Applications submitted</td>
<td>23</td>
<td>Accepted</td>
<td>11</td>
<td>Applications submitted</td>
</tr>
<tr>
<td>2011</td>
<td>15</td>
<td>Applications submitted</td>
<td>15</td>
<td>Accepted</td>
<td>15</td>
<td>Applications submitted</td>
</tr>
</tbody>
</table>
Residency training

From 2006, 66 residents entered Veterinary Medicine residency studies, residency certificates were issued to 34 specialists. It is planned to issue 13 residency certificates in 2012 and 15 certificates – in 2013.

Table 12.4: Number of residents graduating annually

<table>
<thead>
<tr>
<th>No.</th>
<th>Study programme</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Accepted</td>
<td>Certificates issued</td>
<td>Accepted</td>
<td>Certificates issued</td>
</tr>
<tr>
<td>1</td>
<td>Veterinary surgery</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>2</td>
<td>Veterinary pathology</td>
<td>5</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>3</td>
<td>Veterinary therapy of internal diseases</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>4</td>
<td>Veterinary obstetrics and gynaecology</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>Veterinary epidemiology</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6</td>
<td>Veterinary microbiology</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7</td>
<td>Veterinary virology</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>Veterinary parasitology</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>9</td>
<td>Veterinary clinical haematology and toxicology</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>10</td>
<td>Veterinary genetics</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>11</td>
<td>Veterinary hygiene of animal products</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>IN TOTAL:</td>
<td>5</td>
<td>–</td>
<td>10</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Study programme</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Accepted</td>
<td>Certificates issued</td>
<td>Accepted</td>
<td>Certificates issued</td>
</tr>
<tr>
<td>1</td>
<td>Veterinary surgery</td>
<td>3</td>
<td>–</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Veterinary pathology</td>
<td>3</td>
<td>–</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Veterinary therapy of internal diseases</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>4</td>
<td>Veterinary obstetrics and gynaecology</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>5</td>
<td>Veterinary epidemiology</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Veterinary residency programmes are not certified by the European Board of Veterinary Specializations.

Students who studied in residency in 2006-2007 received stipends of 6.8 Minimum Living Level (MLL), and from 2008 – 9.6 MML. It is not mandatory to employ Veterinary Medicine residency students in the departments, clinics or residency bases.

Assessment of quality assurance for clinics, laboratories and farms

Veterinary Medicine residency studies are implemented in the departments, Large Animal Clinic, Dr. L. Kriauciliunas Small Animal Clinic of Veterinary Academy, Centre of Pathology of LUHS Veterinary Academy and in the following bases accredited in 2011: UAB „Dainavos veterinarija“, Kaunas, R.Bartkauš I.Į „Vingio veterinarijos gydykla“, Klaipėda, National Food and Veterinary Risk Assessment Institute, Vilnius. In 2012 it is planned to accredit UAB „Vilniaus žirgynas“.

Procedure for the selection of residency bases. Bases of the University’s Veterinary Medicine Residency can be veterinary clinics, laboratories, scientific centres, divisions of the State Food and Veterinary Service, enterprises processing animal raw materials, food and forage production enterprises, animal husbandry, poultry, fisheries, apiculture farms, other establishments which pursue veterinary activity (hereinafter referred to as the Establishments) and comply with the implementation requirements specified in the Veterinary Medicine residency programme or cycle (cycles) and selected by the Committee.

Functions of the assessment of residency bases and selection commission in the University are carried out by the University Residency Committee. The Committee acts under Residency Committee's working regulation approved by the University. Chairman of the Committee is University’s vice-rector for clinical medicine, his deputy – University’s pro-rector for veterinary, secretary – dean of After-Diploma Studies Centre, members – pro-dean of After-Diploma Studies Centre, deans of the faculties of Medicine, Odontology and Veterinary Medicine and representatives of residents delegated by the Residents’ Council, representatives delegated by the State Food and Veterinary Service.

The Establishment seeking to become a base of University residency studies must by 1 September of the calendar year (in case of Veterinary Medicine – by 1 October) submit an application to University’s After-Diploma Studies Centre, and in case of Veterinary Medicine – to
the supervisor of residency studies to implement a programme of residency studies or a cycle (cycles) by indicating a potential number of residency places and other conditions for the implementation of studies.

Having received the application from the Establishment, the coordinator of residency studies by 15 October supplies to the Establishment a residency base evaluation questionnaire prepared by the coordinator of the respective residency programme and co-ordinated with the supervisor of residency studies. Requirements for the bases of residency studies and residency evaluation questionnaires are placed on the University web site.

Having submitted the application, the Establishment completes a received questionnaire and by 15 November of the calendar year submits it to the supervisor of residency studies. A separate completed questionnaire is submitted for each programme of residency studies or of the cycle (cycles) if the Establishment plans to implement only part of the programme of residency studies.

Bases of residency studies are evaluated and selected pursuant to the questionnaires completed by the Establishments. The Committee allocates at least two experts for the evaluation of one completed questionnaire who must have a respective professional qualification, check the data and conditions of the completed questionnaire and provide conclusions to the Committee. Prior to the submission of the conclusions to the Committee, it is recommended to discuss them at the meeting of the commission of respective residency studies. The Committee has the right to check the data or conditions provided in the questionnaire completed by the Establishment and to ask from the Establishment for additional information. Having analysed the questionnaires provided and completed by the Establishments and having considered experts’ conclusions, the Committee by 1 February of the next calendar year selects the bases for residency studies and sets the following:

- The cycle (cycles) of the programme of residency studies which can be carried out in the base of residency studies;
- The biggest possible number of residents (students);
- Period for which the base of residency studies is provided.

The Committee notifies the applicant of its decision in writing.

Establishments which do not agree with the decision taken by the Committee may appeal against this decision under procedure laid down by the Law on Administrative Cases. If needed, on the proposal of the supervisor of residency studies, additional evaluation of the applications of the Establishments wishing to become bases of the University’s residency studies may be organized (after 1 February).

**Requirement for the bases of residency studies**

Veterinary clinics must provide in-patient and out-patient and diagnostic services to the animals. Clinics must have specialized ambulatory, surgery and in-patient divisions staffed with veterinary surgeons of which at least one has a career exceeding 5 years. Conditions must be created for the residents to learn to diagnose or suspect most frequent infectious and non-infectious diseases and to provide qualified assistance and to perform preventive actions. Clinical laboratories must carry out immunological, biochemical, microbiological, parasitological and analyses, as well as X-ray, ultrasound, computer tomography and endoscopic examinations of the animals. Clinics must create conditions for residents to use a computer and the Internet, archives of X-ray and mielographic examinations, scientific periodicals and publications available on veterinary medicine practice for independent studying of literature by the students. Academy’s laboratories of microbiology, virusology, parasitology, and genetics must be equipped with the latest diagnostic equipment and perform biochemical, immunochemical, genetic and other investigations.

Veterinary Medicine integrated study programme guides itself on the main provisions of university and professional studies in developing veterinary specialists of a broad profile. The study programme is also based on the initiative of the European Association of Establishments for
Veterinary Education (EAEVE) to unify the curriculum of the veterinary medicine study programmes and the quality of training in the EU member states – this is associated with the EU internal market area and potential influence and risks related with animal diseases and safety of food products. This study programme is universal and it allows for trained specialists adapt and work in different countries.

**The aim of the Veterinary Pathology** residency study programme is to train a veterinary doctor- pathologist able to work independently in veterinary pathology divisions (centres), organize the work of veterinary pathology, evaluate pathological changes of different types of animals, and diagnose infectious and non-infectious diseases and syndromes while applying contemporary pathological morphological methods.

**The aim of the Veterinary Surgery** residency study programme is to train a veterinary doctor- surgeon possessing enough experience to diagnose and treat surgical diseases while applying contemporary diagnostic and treatment methods in the centres and to organize surgical work.

**The aim of the Veterinary Obstetrics and Gynaecology** residency study programme is to train a veterinary doctor- gynaecologist who would be able to independently practice and consult in the area of animal gynaecology, to diagnose, treat and prevent reproductive disorders, infectious and non-infectious diseases of different types of animals while applying contemporary clinical methods.

**The aim of the Veterinary Clinical Haematology and Toxicology** residency study programme is to train a veterinary doctor-haematologist-toxicologist who would know how to select and apply contemporary examination methods, diagnose haematological diseases and poisonings of different types of animals, recognize different toxic factors, provide first and later therapeutic aid; to train a specialist able to organize haematological and toxicological investigations, independently work in research laboratories and address problems related with diagnosing of animal diseases and poisoning.

**The aim of the Veterinary Internal Diseases Therapy** residency study programme is to train high-level specialists in veterinary therapy who would know how to diagnose and treat non-infectious diseases of different types of animals while applying contemporary clinical methods.

**The aim of the Veterinary Genetics** residency study programme is to train veterinary doctors- geneticists who would be able to work independently and diagnose hereditary diseases and defects of different types of animals using DNR, identify animals and products derived from them and perform a qualitative and quantitative control of genetically modified food while applying contemporary genetic research methods.

**The aim of the Veterinary Microbiology** residency study programme is to train high-level veterinary doctors, specialists of microbiology who would be able to diagnose independently bacterial/fungal diseases of different types of animals while applying contemporary methods of secreting and identifying pathogenic microorganisms; to ensure practical training in laboratory diagnostics of bacterial/fungal diseases, differential diagnostics and treatment.

**The aim of the Veterinary Hygiene of Animal Products** residency study programme is to train veterinary doctors of high professional qualification in the area of veterinary sanitary of animal products who would be able to analyse and assess safety of the raw materials of animal origin and safety of food products produced from them to human health; detect diseases dangerous to people and animals, assess structure, chemical composition, microbiological and biochemical parameters of the raw materials of animal origin and of the products bearing in mind risk factors for human health; understand consumers’ needs and social, economic changes in the consumption of food; apply requirements of ISO standards, RVASVT and other quality control systems in the enterprises producing raw materials and food, in trade and public catering.

**The aim of the Veterinary Parasitology** residency study programme is to train veterinary doctors- parasitologists who would be able to work independently in the parasitology laboratory,
diagnose parasitoses of different types of animals using different helminthological, coprological, serological or molecular investigations.

The aim of the Veterinary Epidemiology residency study programme is to train veterinary doctors- epidemiologists who would be able to work independently in the units of the State Food and Veterinary Service and institutions of science and studies, train specialists able to analyse epidemiological situation of infectious and non-infectious diseases of different types of animals while applying contemporary statistical methods.

The aim of the Veterinary Virusology residency study programme is to train veterinary specialists of high qualification in veterinary virusology who would be able to diagnose viral diseases of different types of animals while applying contemporary methods of virusological diagnostics.

12.1.2 RESEARCH EDUCATION PROGRAMMES

LUHS VA doctoral students prepare a doctoral thesis (adequate to PhD) which is defended in accordance to the following documents: Resolution No. 561 „On the approval of the provisions of doctoral studies“ adopted by the Government of the Republic of Lithuania on 12 May 2010, regulations of LUHS doctoral studies and regulations of LUHS Research Council for the defence of doctoral thesis approved by Resolution No 5-02 adopted by the Senate of Lithuanian University of Health Sciences on 21 January 2011.

Right for doctoral studies in scientific fields for the University or for the University jointly with different Lithuanian or foreign universities is granted by the Ministry of Education and Science based on the recommendation of the Research Council of Lithuania.

Until end of 2002, doctoral studies of two cycles were implemented: for obtaining of a doctoral degree and a degree of habilitated doctor. In each case thesis of an appropriate level were prepared and defended in the Defence Council. After 2002, only one cycle of doctoral studies remained with significantly stricter requirements. Over the period of 2004-2009, Veterinary Academy pursued habilitation procedures according to the Lithuanian Veterinary Academy’s habilitation regulation approved at the LVA Senate meeting on 25 February 2004 (protocol No. 05-02-06). To fulfil a habilitation procedure, a scientist had to provide a specified quantity of scientific production of respective quality (articles, monographs), to submit a summary of published works and to defend them at the Defence Council. During this period, habilitation procedures in the field of Veterinary Medicine were performed by 7 VA scientists.

On 14 February 2011, under Order No. V-231 „On the approval of the fields and branches of science“ issued by the Minister Education and Science, a scientific field of Veterinary Medicine was attributed from biomedicine to the area of agricultural sciences.

Purpose of doctoral studies – to prepare scientists able to perform independently works of scientific research and experimental development and to resolve scientific problems. Doctoral studies must ensure sufficient competency: advanced knowledge in research work, in the targeted areas of science and in their interaction; specialized abilities and methodologies to resolve problems of scientific research and other areas, abilities to develop existing knowledge or professional practice; ability to work independently, to create a new ideas and to use it in studies or another activities.

Tasks:
1. To create conditions to seek for new scientific knowledge and to absorb methods necessary for the implementation of the doctoral studies programme and scientific research plan.
2. To ensure diversity of study programmes to enable receipt of comprehensive knowledge on the selected scientific problem.

3. To strengthen the role of supervising doctoral students while fostering the rights and duties of the doctoral student in the process of doctoral studies on agreed conditions.

4. To encourage interdisciplinary co-operation, co-operation between Lithuanian and foreign universities in developing joint study programmes and executing exchanges in doctoral students.

The main abilities which must obtained by doctoral students in the filed of Veterinary Medicine:

- To demonstrate understanding of selected area, to know methods of scientific research appropriate for the investigation of selected area and be able to apply them;
- Following ethical requirements, to be able to make and implement a general plan of thesis work, and to perform research of the necessary scope;
- To contribute with one’s own original research to the creation of new knowledge while preparing a doctoral thesis and publishing results in reviewed national and international publications;
- To be able analyse, evaluate critically and systematize new and complex ideas;
- To be able to communicate with colleagues in scientific community of their interests, also with the broader community while presenting the results of scientific research in the society.

Seeking to ensure high quality of doctoral studies, LUHS creates conditions for receiving additional funding for scientific works of doctoral students from the fund of science of LUHS.

The Senate of LUHS sets up scientific doctoral studies committees for six years from at least 9 high-level international scientists and approves a chairman of the Committee. If the right of doctoral studies is acquired jointly with another Lithuanian or foreign institution of science, at least one representative of the partner institution is included in the University Doctoral Studies Committee of a respective field. Participation of the partner institution in the process of the joint right of doctoral studies is executed in the form of joint activity agreement.

A doctoral degree can be awarded to a person who successfully completed full-time (up to 4 years) or part-time (up to 6 years) doctoral studies, prepared and defended a thesis, or to a person who defended his thesis prepared in extern. The method of acquisition of the doctoral degree is selected by the person seeking to get a doctoral degree.

**Funding of the places to doctoral studies**

All the places of doctoral studies of doctoral students admitted before 2009 are funded from the state budget of the Republic of Lithuania.

Following Order No.V-1050 issued by the Minister of Education and Science on 30 June 2010, doctoral students admitted to the studies of biomedical sciences are funded from the European Union structural funds in the framework of Researchers’ Career Programme and on topics of national complex programmes. Therefore, doctoral students admitted in 2010 and 2011 are funded using the European Union Structural Funds and not the funds of the state budget of the Republic of Lithuania.

<table>
<thead>
<tr>
<th>Type of degree</th>
<th>Full-time</th>
<th>Part-time</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>25</td>
<td>6</td>
<td>4 year – full-time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 years – part-time</td>
</tr>
</tbody>
</table>
Table 12.6: Number of doctoral students studying in Veterinary Academy of Lithuanian University of Health Sciences in 2012

<table>
<thead>
<tr>
<th>Code</th>
<th>Area, filed of agricultural science</th>
<th>Number of full-time doctoral students, funded from the budget, number of doctoral students</th>
<th>Number of full-time doctoral students, funded from the European Union structural funds under Researchers’ Career Programme</th>
<th>Number of part-time doctoral students, funded from the European Union structural funds under Researchers’ Career Programme</th>
<th>Number of part-time doctoral students</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 A</td>
<td>Veterinary Medicine</td>
<td>14</td>
<td>11</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Admission of doctoral students

Each year, by 1 February, departments, clinics, laboratories and research institutes of the University submit to the councils of their units applications for preparing doctoral students. Institutions holding the general right of doctoral studies collect and approve applications following the procedure established by their own institution. The application indicates the following:

1. Which doctoral studies are requested;
2. Area, field of science;
3. Substantiated motives for receiving doctoral studies indicating the theme of the planned scientific work and a unit’s highly competent scientist applying to be a supervisor of the doctoral student, description of the material and scientific base for an intended project of doctoral studies, potential additional funding measures, and information which scientific experience of the applicant to doctoral studies should be treated as a priority;
4. A possibility to employ a doctoral student in the department, clinic, laboratory or institute (for those studying in full-time doctoral studies).

University doctoral studies committees assess applications taking into account the needs to renew scientific staff of the unit, competency of potential supervisors of doctoral students under qualification requirements set by the legal acts in force for the supervisor of the doctoral student and the quality of the proposed scientific project, as well as its relevance for the country’s scientific research development and conclusions of the services of the units, and foresees a desired number of doctoral students in individual research fields in full-time and part-time doctoral studies. Institution of doctoral studies must inform the Ministry of Education and Science of the number of doctoral students planned to be admitted following the procedure set by the legal acts. When the latter assigns places of doctoral studies, doctoral studies committees define in which units open tenders to doctoral studies will be announced for the applicants.

Persons holding a qualification master’s degree or an equivalent higher education may take part in the tender of doctoral studies.

Admission to doctoral studies is subject to the evaluation of the following facts: results of the completion of master’s studies or equivalent integrated studies, scores of completed residency studies (when entering clinical doctoral studies), published research works or a paper, recommendations submitted by scientists, opinions of the head of the unit to which the applicant is admitted and of the potential supervisor. In case of several applicants, admitted will be that person who receives more than half of the votes of the admission commission.

Foreign citizens (non-EU citizens) entering the doctoral studies and holding master’s qualification degrees or equivalent higher education diplomas must provide a document recognizing the qualification awarded abroad together with documents referred in the paragraph 20 and must pay according to the Senate a specified tuition fee. Foreign EU citizens take part in competition pursuant to the general procedure.
In 2011, 7 doctoral students were admitted to doctoral studies in the field of Veterinary Medicine following the criteria for admission to doctoral studies and taking into account material base of the unit concerned, scientific accomplishment and need to prepare new scientific and pedagogical staff. Six admitted full-time doctoral students and one part-time doctoral student are funded using the European Union structural funds under Researchers’ Career Programme.

Table 12.7: Number of doctoral students admitted to doctoral studies in 2002-2011 and form of their studies

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of doctoral students</th>
<th>Form of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>5</td>
<td>Day-time</td>
</tr>
<tr>
<td>2003</td>
<td>8</td>
<td>Day-time</td>
</tr>
<tr>
<td>2004</td>
<td>6</td>
<td>Day-time</td>
</tr>
<tr>
<td>2005</td>
<td>6</td>
<td>Day-time</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Extramural</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
<td>Day-time</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Extramural</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>Day-time</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Extramural</td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
<td>Day-time</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Extramural</td>
</tr>
<tr>
<td>2009</td>
<td>5</td>
<td>Full-time</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Part-time</td>
</tr>
<tr>
<td>2010</td>
<td>5</td>
<td>Full-time</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Part-time</td>
</tr>
<tr>
<td>2011</td>
<td>6</td>
<td>Full-time</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>Part-time</td>
</tr>
</tbody>
</table>

Table shows that each year from 5 to 8 students were admitted to day-time/full-time studies, and from the period of 2002-2011 the total number of admitted students was 59, number of students admitted to extramural/part-time studies was 13.

Quality assurance of doctoral studies

Supervisor of the doctoral student must be a scientist of the high international level doing research in a respective field of science and supervising studies and scientific research of the doctoral student. Supervisor of the doctoral student must meet qualification requirements established by Order No. ISAK-625 issued by the Minister of Education and Science of the Republic of Lithuania on 31 March 2006 „On the approval of qualification requirements of the members of the councils for the defence of doctoral thesis, scientific supervisors of doctoral students, consultants, opponents and other scientists indicated in the lists while seeking to obtain the right to doctoral studies” (Official gazette, 2006, No. 39-1422). Supervisor of the doctoral student can supervise not more than five doctoral students at a time.

Head of the unit, in which studies a doctoral student, together with a doctoral student and his supervisor take care of doctoral student’s studies, scientific research, ensures that a doctoral student has suitable working conditions and measures, that activity of the doctoral student is annually considered at the meeting of the workers of the unit. If possible, a doctoral student can travel to the internship or continue studies abroad. This period is included in the general duration of doctoral studies.
General scope of doctoral studies is at least 20 credits, and from 1 September 2011 – at least 30 ECTS credits and they consist of at least four subjects covering education of transferrable, speciality and scientific abilities.

Each year, by the first of October, a doctoral student is attested in the unit in which he studies and in the Committee of Doctoral Studies. Scientists of the unit, with the participation of the doctoral student and his supervisor, having assessed the implementation of the plan of the doctoral student, submit a conclusion to the Committee of Doctoral Studies which attests a doctoral student (thereby approving continuation of doctoral studies and specifying the plan for the next year) or does not attest him (by removing him from doctoral studies). Committee of Doctoral Studies may invite to its meeting a doctoral student and his supervisor. Committee of Doctoral Studies communicates a conclusion of the attestation protocol and documents provided by a doctoral student to the Centre of Science. A doctoral student provides to the Centre of Science an annual report of the established form.

Doctor’s thesis must include a main part, summary and copies of scientific publications published by the person intending to defend a thesis on related topics (hereinafter referred to as candidate for the degree of PhD).

A scientific monograph, which the candidate for the degree of PhD wrote without co-authors, may be also presented for the defence as a doctoral thesis.

The thesis must outline the goal of the work, formulate objectives to be resolved, indicate novelty of scientific work, review global research carried out on the topic of the thesis, introduce methods of research that have been applied, discuss the results of the research, substantiate their reliability and relationship with the data of other researchers, to formulate conclusions and provide other aspects which are important in the opinion of the candidate for the degree of PhD. The thesis must also present a list of scientific conferences at which results of the thesis research were published, and a description of the life, scientific and creative activity of the candidate for the degree of PhD (CV).

In September of 2011, all doctoral students were attested at the Veterinary Medicine Doctoral Studies Committee by assessing their scientific research work and published publications.

A thesis must be defended during the period allocated for doctoral studies. If a doctoral student submits his thesis until the end of doctoral studies but fails to defend it on time, 12 months following the end of doctoral studies the thesis can be defended in the ordinary procedure. Thesis not defended over this period is defended in extern. A person may submit a thesis for defence if he:

1. Passes all the examinations foreseen in the working plan of the doctoral student;
2. Publicizes the most important research results in at least two reviewed scientific articles. At least one article must be in the publication which is reviewed in Scientific Information data base „ISI Web of Science“ and has a Science Citation Index. One article may be accepted for printing. Results of the most important research may be published in a scientific monograph;
3. Presents the results of his research at international scientific events;
4. Complies with other requirements set in the regulation.

If the defence council decides that a doctoral degree should not be conferred, an amended thesis may be submitted for defence no sooner than after one year. In this case a doctoral degree is acquired in extern. In case of establishing a fact of scientific dishonesty (plagiarism and etc), the thesis may not be defended.
Table 12.8: Data on the crop of doctoral students who entered in 2007 and completed doctoral studies in 2011

<table>
<thead>
<tr>
<th>Veterinary Medicine – 02 A</th>
<th>Admitted in 2007</th>
<th>Not completed/completed in 2011/2011</th>
<th>Defended thesis or the date of defence is approved</th>
<th>Positive final reports, prepares thesis</th>
<th>Extended time of doctoral studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>1/4</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 12.9: Number of doctoral students of LUHS Veterinary Academy who defended doctoral theses in the field of Veterinary Medicine over the period 2002–2011

<table>
<thead>
<tr>
<th>Field of agricultural sciences</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>In total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Medicine – 02 A</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>39</td>
</tr>
</tbody>
</table>

Table 12.10: Number of doctoral theses defended by doctoral students of LUHS Veterinary Academy in extern over the period 2002–2011 under the fields of science

<table>
<thead>
<tr>
<th>Field of agricultural sciences</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>In total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinary Medicine – 12 B</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 12.11: Number of doctoral students who completed doctoral studies on due time, of them:

1. Number of doctoral students who defended theses;
2. Number doctoral students who failed to defend theses.

<table>
<thead>
<tr>
<th>Study year</th>
<th>Completed studies</th>
<th>Defended theses</th>
<th>Did not defend theses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2006</td>
<td>5</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>2003-2007</td>
<td>6</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>2004-2008</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2005-2009</td>
<td>5</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>2006-2010</td>
<td>3</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>2007-2011</td>
<td>4</td>
<td>1</td>
<td>1 (2 plan to defend in 2012)</td>
</tr>
</tbody>
</table>

Table 12.12: Number of admitted extern students, date of defence of their theses.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of externs</th>
<th>Theses’ defence date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1</td>
<td>2002-11-22</td>
</tr>
<tr>
<td>2003</td>
<td>2</td>
<td>2003-03-28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2003-12-17</td>
</tr>
<tr>
<td>2004</td>
<td>1</td>
<td>2004-06-29</td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
<td>2005-12-16</td>
</tr>
<tr>
<td>2006</td>
<td>1</td>
<td>2006-12-28</td>
</tr>
<tr>
<td>2007</td>
<td>1</td>
<td>2007-02-08</td>
</tr>
<tr>
<td>2008</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2009</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>1</td>
<td>2010-05-07</td>
</tr>
<tr>
<td>2011</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 12.13: Number of research works published by doctoral students during the period of doctoral studies.

<table>
<thead>
<tr>
<th>Period of studies</th>
<th>Number of published scientific works</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2006</td>
<td>12</td>
</tr>
<tr>
<td>2003-2007</td>
<td>30</td>
</tr>
<tr>
<td>2004-2008</td>
<td>7</td>
</tr>
<tr>
<td>2005-2009</td>
<td>21</td>
</tr>
<tr>
<td>2006-2010</td>
<td>10</td>
</tr>
<tr>
<td>2007-2011</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 12.14: Comparison of the publications by doctoral students in the field of Veterinary Medicine with the publications of the crop science

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles in ISI WOS journals with Science Citation Index &gt;0</td>
<td>6 / 8 / 10 / 4 / 6 / 3</td>
<td>1,5 / 2,7 / 2,0 / 2,0 / 1,0 / 0,7</td>
</tr>
<tr>
<td>Articles in other reviewed journals</td>
<td>2 / 2 / 11 / 3 / 24 / 9</td>
<td>0,5 / 0,7 / 2,2 / 1,5 / 4,1 / 2,2</td>
</tr>
</tbody>
</table>

Feedback

Majority of doctoral students who defended thesis remain working in LUHS VA or scientific institutes, therefore a feedback is received even without formal surveys; opinions are heard and considered on study subjects, supervision of doctoral students. Most comments are positive regarding a demanding assessment of the course of studies, organizational support in the stage of writing a thesis.

Funding of doctoral studies and stipends

Student baskets were introduced in 2009. Ministry of Education and Science of the Republic of Lithuania approved the following regulatory fees for doctoral studies: full-time studies – 28 250 Lt (8 188 Euro), part-time studies – 19 325 Lt (5 459 Euro). Each year a higher education institution approves the fee for studies (without stipends), which may not exceed a regulatory fee. Lithuanian Veterinary Academy approved for doctoral students who entered in 2009 22 040 Lt (6 388 Euro) for full-time studies and 13 320 Lt (3 861 Euro) – for part-time studies. Doctoral students admitted in 2010 are funded from the European Union structural funds and they are subject to a more stringent payment control, they are attested every half year (state-funded doctoral students are attested following the procedure laid down in the Doctoral Studies Regulation – once a year, i.e. until 1 October). In 2010, the following tuition fees were approved for Veterinary Medicine: a fee for full-time studies without a stipend is 12 625 Lt (3 659 Euro), with stipend – 27 601 Lt (8 000 Euro); a fee for part-time studies (stipend to part-time doctoral students are not paid) – 18 833 Lt (5 459 Euro).

A doctoral student stipend paid each month is as follows: I-year doctoral students – 1 079 Lt (312.75 Euro), II-IV year – 1 248 Lt (361.74 Euro). A stipend is paid irrespective of whether a doctoral student receives a stipend or support from other funds, or studies abroad. A stipend is terminated only for the period of academic leave or in case of leaving the studies.

There were no doctoral students paying for studies in Veterinary Academy.

Over the study period of 2002-2011, Lithuanian State Research and Studies Fund paid to doctoral students who carried out scientific research in the field of Veterinary Medicine (02 A) 74550 Lt of stipends.

Stipends of scientific research are granted to doctoral students who actively pursue scientific research, i.e. they have scientific works published or prepared for publicizing on the topic of their
thesis. Doctoral stipends are allocated each year by way of tender. The decision is taken giving priority to doctoral students who have scientific publications of a higher level or who have published more than one publication.

In 2012, 9 doctoral students in the field of Veterinary Medicine provided documents to the Research Council of Lithuania in order to receive support and 5 of them received stipends (under order No V-55 issued by the chairman of the Research Council of Lithuania on 29 February 2012).

**Internationality of doctoral studies**

Internationality of doctoral studies is ensured through the mobility of doctoral students and their supervisors, consultants in international academic exchange programmes, participation in short-term doctoral study courses, invitations of foreign scientists to facilitate seminars, present results of scientific research carried out by them and VA at international scientific conferences. Support and encouragement is in place to stimulate activeness of doctoral students in supplying applications for stipends under bilateral Lithuanian Exchange agreements (for example, under CIRIUS programme), doctoral students are involved in international projects carried out in the Academy.

In the Erasmus exchange programme each doctoral student (if he has not yet used Erasmus stipend for studies) may provide an application for 3-12 months partial individual studies at a foreign university or for 3 months internship at any selected European Union scientific research institution approved by the supervisor.

An important measure ensuring internationality of doctoral studies are BOVA and NOVA-BOVA academic networks connecting Baltic and Nordic countries. One of their strategic aims is promotion of joint international doctoral studies resulting in short intensive (5-10 days‘ international specialized doctoral study courses in Baltic or Nordic countries). Costs of doctoral students are covered either from international programmes or projects, or by VA which allocates a targeted stipend.

VA has a procedure in place under which each doctoral student, who wishes to leave for internship or carry out a scientific research in a foreign country, may submit an application for financial support from VA budget. Division of International Relations follows and disseminates VA information on courses, programmes and stipends offered to doctoral students.

**Justification of the thematic relevance of thesis on the national and international scale.**

On the initiative of the commissioners of the European Union who supervise research, development, health and consumers’ rights and on the initiative of European industry, the European Technology Platform for Global Animal Health (ETPGAH) was created on 16 December 2004. The purpose is to create effective measures to control infectious animal diseases which are very important in Europe and the world. Significance of fundamental research was emphasized as a foundation for new technologies without which development of new and existing disease control measures would not be successful. Development of fundamental sciences is the first objective of the academic community.

Specific fundamental directions of scientific research have been set out as follows:

− Interaction of the organism/pathogen
− Fundamental immunology
− Epidemiology
− Genomics
− Integrated biology (Bioinformatics)

European Commission, following experience accumulated in control of animal health and taking into account proposals of the partners, launched a new Animal Health Strategy for the
European Union 2007-2013. Successful implementation of the Strategy depends on European Technology Platform for Global Animal Health. Based on that a National Technology Platform for Animal Health was drafted in 2007 including the following strategic directions:

1. Complex assessment of the risk of infectious animal diseases and harmful substances in animals with the view of identifying priorities of control of risk actions;
2. Legal regulation of animal health and welfare and legal regulation of food safety;
3. Prevention and monitoring of infectious animal diseases and harmful substances in animals, animal products and feed, and immediate actions;
4. Development of and innovations in sciences of animal husbandry, veterinary medicine and food safety.

In order to implement a Strategy of National Technology Platform for Animal Health and Welfare, a strategic scientific research plan has been proposed which is related to the strategic scientific research plan of the Animal Health Strategy for the European Union and prepared taking into account national realia.

EU allocates large funds to the development of science. The seventh framework programme 2007-2013 is a very important support measure for scientific research in the areas of infectious animal diseases and animal welfare. It promotes co-operation of the scientific potential of the member states while addressing very important questions pertaining to infectious animal diseases, animal health and food safety. Applications for scientific research programme are prepared for the year 2010.

Themes of scientific works of doctoral students of LUHS Veterinary Academy are formed with respect to abovementioned strategic scientific research directions of the European Commission.

Material base to carry out scientific research

Departments and scientific laboratories of the Veterinary Academy compiled modern equipment used to perform scientific research.

Laboratory for the Assessment of Meat Characteristics and Quality defines meat quality using pH meter Inolab 3, measurer of colour Minolta chromo meter 410, automatic dry matter scales SM-3, high pressure chromatographic system, spectrophotometer and etc; Animal Health Research Laboratory performs biological, epidemiological and prevention investigations of the diseases of zoonotic and economically significant agricultural animals and poultry using the following equipment: amplifier for chain reactions of polymerases, horizontal electrophoresis and gel recording equipment, photometer of immunoferment analysis, spectrophotometer for serological investigations, II class biological safety cabinet, centrifuges, -20°C and deep freezing freezers and thermostats to examine cell cultures and perform virusological examinations, luminescent and inverse microscope and binocular stereomicroscopes, helminthological and carpological examination equipment and etc; Animal Raw Materials (Carcasses) Quality Assessment Laboratory has instruments to assess carcasses (FOM, INTROSKOP), meat cutting measures, video and multimedia equipment, a camera for taking pictures of carcasses, a minibus for travelling to meat enterprises and etc; Animal Welfare Research Laboratory has accumulated reference materials, standards and immunoferment tests for the determination of micotoxins, possesses such equipment as ALMAMO-22993, air gas analyser Dräger, TSI – thermal environment research device, Gilian apparatus for dust dispersion analyses, temperature accumulators – EBI-6 and etc. The Laboratory is equipped with a sterile room for releasing micromicets, light microscopy for identifying micromicets and modified chromatography methods for the detection of micromicets. The following Romer Labs (USA) equipment is used: Romer mill, mixer, Romer® auto spotter and Romer®Evap system. Samples are cleaned using Romer Labs clean up columns. Screening is done using immunoferment analysis, assessment is done using Neogen Optical Density Reader, Stat Fax
303 plus Micro strip Reader. **Poultry Feed and Poultry Products Laboratory** equipment allows to examine the feed and quality of the poultry and eggs, for example, an egg multi-tester „EMT-5200“ is used to measure the weight of the egg, height of the egg albumen, Haugh unit, intensity of the yolk colour; eggshell force analyzer „Eggshell Force Gauge Model-II“, Gerhardt fat determination system, Fibre Bag System, Memmert ovens, high pressure liquid chromatography (HPLC) system and etc; **Research Centre of Digestion Physiology and Pathology** carries out studies on biochemical and microbiological parameters of rumen fluid and feed organic material digestion using Kjeldahl and microbiological research equipment. **Dr. K. Janušausko Animal Genetics Laboratory** has all state-of-art equipment to perform molecular and cytogenetic studies, for example, 3 DNR amplifier, centrifuges, freezing centrifuge, vortex tubes, 3 horizontal electrophoresis apparatuses for agarose gel, ABI 310 Capillary DNR analyser, BioRad gel video recording system, Biolar -70°C freezer, laminar, fume hood, thermostats and etc; **Experimental and Clinical Pharmacology Laboratory** uses a semi-automatic biochemical analyzer „Clean Check Plus“, automatic analyzer „Eos-Bravo“ to carry out scientific and student final works. In the nearest future it is planned to acquire a semi-automatic analyzer Evidence Investigator to determine the quantity of veterinary medicine residues in animal matter using biochip reading technology. **Immunology Laboratory** has appropriate equipment and instruments for students to perform individually basic antigen-antibody reactions which are used to carry out microbiological studies of food products and demonstrate reactions of molecular methods etc. **Animal Reproduction Laboratory** uses the following equipment for research, practical studies and student laboratory works: FacsCalibur flow citometer, Micro plate Reader ELX800G S/N 18, microscopes of different purposes – trinocular with epifluorescent additional port SPECTRUM, Inverted, Fluorescent, Eclipse 50i NIK-MBA 8502M, water cleaning deionising system ULTRA CLEAR BASIC PLUS, PGR mixture preparation device, Horizontal Heliv electrophoresis system MSCHOICE10, CO2 and System Incubator F.lli GALLI, Dewar flasks, Programme SCA 2002 LITE Micro Optic Morphological Assessment Module SCA 2002, Programme Module SCA DNA frag. Micro Optic etc. Besides these enumerated instruments and equipment, students can also utilize the equipment and instruments of 8 more laboratories. It is intended to set up a hooknoses research centre by 2014. „Nemunas“ valley creates a possibility for science to develop new scientific research and experimental development areas, create modern technologies and new products, preventive and treatment measures. Open Access centres will encourage a more effective international co-operation. Doctoral (PhD) students will be able to perform broader scientific research in the directions of creating veterinary medicine and animal husbandry technologies, to prepare thesis with the their results to be applied in practice. The quality and diversity of interdisciplinary doctoral studies and studies of interrelated fields will be improved, new study programmes will be created and existing ones will be elaborated so that qualification of specialists better meets the needs of the labour and market.

**12.2 COMMENTS**

2012 is the year of changes taking place in the curriculum and methodology of Veterinary Medicine Residency studies considering latest achievements of science and practice in veterinary medicine, recommendations provided by Lithuanian and international specialty organizations, requirements of international and domestic legal acts.

Starting from 2006, 66 residents entered Veterinary Medicine residency studies, certificates of residency studies were issued to 34 specialists. In 2012 it is planned to issue 13 certificates of residency studies and 15 certificates – in 2013 m. From 2006 Veterinary Medicine studies were terminated by 2 students, 1 student was eliminated due to under-achievement, 1 student was eliminated due to the failure to fulfil the programme. All others successfully defended final works.
59 doctoral students studied in doctoral studies in the field of Veterinary Medicine over the period of 2002-2011, doctoral (PhD) thesis were defended by 46 doctoral students, 6 of them – in extern.

6 doctoral students were admitted to doctoral studies in the field of Veterinary Medicine over the period of 2002-2009 to day-time studies, 2 – to extramural studies.

In 2010 and 2011, doctoral students were admitted to the places funded by the European Union structural funds. The number of doctoral studies reduced to 3, although there were submitted 7 applications.

Processes of doctoral studies are co-ordinated by the doctoral studies committee of the Veterinary Medicine field of research including 9 scientists with high qualification.

In 2002-2011, doctoral students published 88 articles related to the theme of thesis. Of them 37 articles were published in the publications reviewed in the data base of Scientific Information Institute „ISI Web of Science“ and having a Science Citation Index; 51 articles – in other reviewed journals.

Of doctoral students who defended thesis in average of 50 % stay to work in Veterinary Academy.

12.3 SUGGESTIONS

While comparing the changes in the number of agricultural animals over the period between 2003 and 2010 in Lithuania, it can be stated that the number of kept animals by separate types of animals changes, the number of some animals (sheep, birds, bees) increases, that of others – decreases (cattle, pigs, horses). The number of fir-bearing animals and wild animals is growing (royal deers, sika deers and fallow-deers), companion animals (dogs, cats, ferrets), reptiles, birds; zoos are established in which exotic animals are kept, therefore the need for veterinary doctors is growing, since each type of animals is characterised by different diseases and pathologies that can be assessed and diagnosed in a qualified way only by veterinary doctors-specialists. Progress in many different branches of biomedicine science and new functional tasks put forward a need to train a certain number of veterinary medicine specialists; to achieve this qualification we need to have not a continuing education but conditions of university education and preparation.

It is envisaged to expand the purpose of the Vivarium while reconstructing the existing Vivarium and creating new infrastructure.

It is envisaged to increase involvement of research institutes and laboratories of the Academy in the studies of all cycles and participation of teachers in scientific programmes of institutes and scientific valleys.

Creation of valleys and clusters – bigger integration of the links between studies, science and business.

To encourage scientists prepare competitive funding projects in order to update scientific research infrastructure.

To improve selection of the applicants to doctoral (PhD) studies and their supervisors, as well as the quality of doctoral studies; to create conditions for doctoral students to prepare scientific works in co-operation with foreign institutions of science.

To develop activity of LUHS Fund of Science based on the principle of competitive funding, to develop activity of the LUHS open fund supporting participation of doctoral students and scientists in international events.

To encourage doctoral students carry out high quality, internationally competitive research and publish publications in international journals with high Impact Factor.

To seek for a higher Impact Factor of the research journal „Veterinary and Zootechnics“ and to increase their prestige.

To create conditions favourable to set up spin-offs in collaboration with business partners.
To use public information tools for better dissemination of the work results of the scientists.

CHAPTER 13. RESEARCH

13.1 FACTUAL INFORMATION

Participation of students in research.

Students participate in scientific activity of Student Scientific Society (98 members at the time). Each year conferences of this society take place and a publication of scientific research articles written by students is issued. Students also attend conferences of other faculties in Lithuania and abroad.

Since preparation of the final Master's thesis is compulsory, all (100 %) students from the 4th year start preparing their final works and they defend them in the 6th year. 16 ECTS credits are given for the preparation of the final work. If a student has publicized at least 3 articles for the conference of Student Scientific Society (SSS) or wrote 2 articles in Lithuanian research publications, or 1 article in the publication included in the list of Scientific Information Institute (ISI) or in other reviewed international journals, he/she may present a survey of the mentioned articles instead of a final work.

Students willingly participate in the implementation of projects (for example, J. Kapučinskaitė and V. Sindeckaja took part in the implementation of the project “Evaluation of the fresh and frozen semen of brood bulls and boars” in the framework of the agreement No 11F-48 concluded with State Animal Breeding Supervision Authority under the Ministry of Agriculture on 4 August 2009).

There are some funds allocated to the departments of Veterinary Faculty for the realization of the whole study process including for the preparation of the final thesis of students (consumables, equipment etc.). The head of the department is responsible for the distribution of the funds for different tasks within the department. The final Theses are also funded through the participation of students in different research projects and performance of specific tasks of the project. However, there are no specific allocations used only to finance the final thesis of the students. From 2011, departments started to receive some funding according to the number of the final Theses prepared at the department.

Scientific works are carried out both by all teachers and scientists. Scientists of both faculties (VF and AHT) of Academy, as well as of Veterinary Institute work together, use available equipment and laboratories; therefore we provide the data for all units and use joint financial accounting.

Table 13.1: Number of academic and technical positions connected with research

<table>
<thead>
<tr>
<th>Divisions</th>
<th>Scientific workers</th>
<th>Junior scientific workers</th>
<th>Senior and chief scientific workers</th>
<th>Ancillary staff / in projects; heads, administrators, coordinators etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employees</td>
<td>staff</td>
<td>Employees</td>
<td>Employees</td>
</tr>
<tr>
<td>Veterinary Faculty</td>
<td>4</td>
<td>2.4</td>
<td>8</td>
<td>5.7</td>
</tr>
<tr>
<td>Animal Husbandry Technology Faculty</td>
<td>5</td>
<td>2.4</td>
<td>9</td>
<td>5.85</td>
</tr>
<tr>
<td>VA Veterinary Institute</td>
<td>2</td>
<td>1.25</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Working in projects</td>
<td>4</td>
<td>1.5</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>In total:</td>
<td>15</td>
<td>7.55</td>
<td>24</td>
<td>15.05</td>
</tr>
</tbody>
</table>
There are 98 employees taking 52 staff position.

**Analysis of scientific output of the units of Veterinary Academy in 2011.**

On 16 December 2009, research directions of Veterinary Academy were approved at the Senate meeting:

1. Epidemiology of animal diseases, aetiology and pathogenesis, prevention, investigations in the consistent patterns of pathological processes and protective reactions of the organism;
2. Investigations in animal breeding, genetic, reproduction, nutrition, feedstuff, welfare and impact on the environment;
3. Investigations in the quality of raw materials and safety of foodstuffs, creation of innovative technologies and products.

Under these directions of science are covered fundamental research – 22 %, applied research – 48 % and clinical research – 30 %, respectively.

Analysis of scientific output of Veterinary Academy is provided according to the data from LIEMSIS – PDB used by all universities of Lithuania. Absolute and relative indicators (absolute number of publications, parts of publications of the authors of the institution, indicators per one job of the researcher in separate units) are analysed. In 2011, particular attention was paid to the publications – monographs of the highest ranking and to the articles of Scientific Information Institute’s (MII) data bases (ISI WOS and ISI WOS with citing index > 0, whose IF > 20% of the respective research category ACR). Evaluation of the output per one job of the researcher was done taking into account the jobs of the researchers of both faculties (also one third of the job of the teachers who hold scientific degrees) and researchers of scientific institut

### Table 13.2: Research output of LUHS VA faculties in 2011

<table>
<thead>
<tr>
<th></th>
<th>VF</th>
<th>AHTF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Absolute number</td>
<td>Input of the institution's* authors</td>
</tr>
<tr>
<td>Monographs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching books</td>
<td>3</td>
<td>1.833 (61%)</td>
</tr>
<tr>
<td>Articles ISI WOS with citing index &gt; 0</td>
<td>33</td>
<td>14.295 (45%)</td>
</tr>
<tr>
<td>Of them: articles ISI WOS with citing index &gt; 0, whose IF &gt; 20% of the respective research category ACR</td>
<td>14</td>
<td>5.369 (38%)</td>
</tr>
<tr>
<td>Articles in other reviewed journals</td>
<td>7</td>
<td>2.402 (34%)</td>
</tr>
<tr>
<td><strong>Total research output</strong></td>
<td><strong>43</strong></td>
<td><strong>18.53 (43%)</strong></td>
</tr>
</tbody>
</table>

* - input of the authors of the faculty of the institution is provided in percentage in brackets.

### Table 13.3: Research output of LUHS VA research institutes in 2011

<table>
<thead>
<tr>
<th></th>
<th>Veterinary Institute</th>
<th>Animal Husbandry Institute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Absolute number</td>
<td>Input of institution's* authors*</td>
</tr>
<tr>
<td>Monographs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching books</td>
<td>7</td>
<td>3.258 (47%)</td>
</tr>
<tr>
<td>Articles ISI WOS with citing index &gt; 0</td>
<td>7</td>
<td>3.258 (47%)</td>
</tr>
<tr>
<td>Of them: articles ISI WOS with citing index &gt; 0, whose IF &gt; 20% of the respective research category ACR</td>
<td>3</td>
<td>1.841 (61%)</td>
</tr>
<tr>
<td>Articles in other reviewed journals</td>
<td>10</td>
<td>7.492(75%)</td>
</tr>
<tr>
<td><strong>All research output</strong></td>
<td><strong>7</strong></td>
<td><strong>3.258 (47%)</strong></td>
</tr>
</tbody>
</table>
Figure 13.1 provides and compares articles of both VA faculties and research institutes for 2010-2011; all articles are in ISI WOS base and are classified as 02 works of level 2, i.e. publications in the journals whose citing index (Impact Factor) in the data bases of Scientific Information Institute is not less than 20% of the aggregated indicator (Aggregate Impact Factor) for that category of journals (absolute number and input of the authors of institution). In 2011, 26 articles were publicised in VA in which the input of the authors of institution is 10 (in 2010, respectively – 11 articles, authors’ input – 5.94). Number of publications in 2011 significantly increased in the faculties (in VF – by 3.5 times, in AHT – by 2.3 times), changed little in institutes (Figure 13.2).

![Figure 13.1](image_url)

**Figure 13.1: Comparison of publications of LUHS VA faculties and research institutes in publications of ISI WOS with IF > 20% of aggregate impact factor) in 2010—2011 for that category of journals (absolute number and share of the input of the institution's authors)**

Comparison of all ISI WOS with IF > 0 articles with indicators of 2010 shows that in 2011 a total number of publications of Veterinary Academy and input of institution’s authors at institutes increased insignificantly. (Figure 13.2). Input of institution’s authors in 2011 in the faculties makes 43.1 %, in research institutes – 60.38 % (Figure 13.2).
Summing up the data on ISI WOS with IF > 0, we can state that, having compared all ISI WOS with IF > 0 articles of 2010 and 2011 and having evaluated the share of 02 publications of level 2 in VA faculties and institutes, during the recent years the absolute number of ISI WOS with IF > 0 articles increased, as did the share of 02 publications of level 2 in them (02 works in the faculties make 36.8 %, in institutes – 31.3 % of all ISI WOS with IF > 0) (Figure 13.3).

Under ISI WOS with IF > 0 indicators, institution’s input increased at institutes, but by 02 publications of level 2 – increased nearly in all units in comparison with 2010 (institution’s input of
02 works in the faculties makes 28.8 %, institutes – 30.4 % of all ISI WOS with IF > 0) (Figure 13.4).

Figure 13.4: Numbers of ISI WOS articles of LUHS VA faculties and research institutes by evaluating the share of A02 publications, 2010–2011 (share of institution's authors' input)

Having assessed effectiveness of scientific research by the share of 02 publications of level 2 per one job of the researcher in the faculties (also including one third of the job of pedagogues with scientific degrees) and in research institutes, it was established that absolute numbers in the faculties are higher than in institutes, and the share of the input of institution’s authors is higher in VF and VI. Having compared publications of 2010 and 2011 per one job of the researcher in ISI WOS with IF > 20% publications, we can state that the absolute number of publications per one job of the researcher in VF increased most of all (Figure 13.5).

Figure 13.5: Comparison of publications of LUHS VA faculties and research institutes per one job of the researcher in ISI WOS with IF > 20% publications of aggregate impact factor for that category of journals in 2010–2011 (absolute number and share of the input of the institution's authors)
Having summed up the data of VA scientists on all ISI WOS with IF > 0 articles and having compared them with units, we can state that most articles per one job of the researcher in 2011 were publicised by AHT, respectively input of the authors of this faculty was the highest (Figure 13.6).

![Figure 13.6: Publications of LUHS VA faculties and research institutes per one job of the researcher in ISI WOS with IF > 0 (absolute number and share of the input of the institution's authors) in 2011](image)

3.5. Involvement of Veterinary Academy units in organizing Lithuanian and international scientific events

In 2011, LUHS Veterinary Academy organized 41 events, of them 4 were international conferences. Most popular were: international conferences „Topicalities of Veterinary and Animal Husbandry Science“ devoted to the 75th anniversary of Veterinary Academy and to celebrate the Veterinary Year 2011 (400 participants, Department of Anatomy and Physiology), conference – exhibition „Old breeds of farm animals and looking for ways of using them in food industry and rural activity “ (262 participants, Animal Husbandry Institute), event devoted to the 65th anniversary of AHT „The most advanced farm of animal husbandry“ (200 participants, Faculty of Animal Husbandry Technology), scientific-practical conference „Production technology of foodstuffs and products of plant origin“ (187 participants, Food Safety and Quality Department). In total, events organized by Veterinary Academy were attended by 3,941 participants.

In 2011, 9 demonstrative test projects took place in different regions of Lithuania (about 10 demonstrative tests are implemented in average in each project) during which technological innovations in industrial conditions were demonstrated to reveal how advanced scientific technologies and innovations are applied in the activity of agriculture and forestry and how agricultural products are processed in the farms.

3.6. Evaluation of activeness of the units of Veterinary Academy in receiving additional funding for the development of research activity and prospects of international cooperation

Figure 13.7 provides information about additional funding allocated to Veterinary Academy and Research Institutes over the period between 2004 and 2011 from Research Council of Lithuania, National Paying Agency under Ministry of Agriculture, Lithuanian and foreign economic entities and international programmes. The curve below shows that in 2006 and 2007 additional
funding to VA faculties grew significantly, in 2010–2011 it grew significantly due to the projects implemented under Lithuanian Rural Development Programme 2007–2012, business valley „Nemunas“ project. Support of Ministry of Agriculture to the Institute increased in 2008, mostly thanks to the funding of the „Programme for preserving genetic resources of Lithuanian farm animals“ (AHI), 2011; also due to the bigger number of the agreements implemented with Lithuanian entities, business valley „Nemunas“ project.

Figure 13.7: Changes in the funds received over the period between 2004 and 2011 while participating in international and Lithuanian research programmes in the faculties and institutes of LUHS VA (thousands Lt).

Implementation of Integrated Research, Studies and Business Valley „Nemunas“ Project „Development of infrastructure of science and studies of animal health, nutrition and animal raw materials, consolidation of scientific potential“

The aim of this Project is to form infrastructure ensuring high quality of studies, development of scientific research in the areas of food safety and animal health, conditions for cooperation between science and business through the implementation of new technologies. In 2011, laboratory equipment was bought to: Centre of Animal Nutrition and Biotechnologies (1 240 112,00 Lt), Centre of Animal Health and Quality of Raw materials of Animal Origin (4 440 153,60 Lt).

Budget of the project – 30 303 000 Lt excluding VAT (EU funds – up to 25 757 550 Lt, LR state budget funds – up to 4 545 450 Lt). Funding used up in 2011 – 11 909 223,72 Lt (in 2010 – 1 763 952 49 Lt).

3.7. Involvement of LUHS VA in international projects

In 2011, VA implemented 4 BP7 projects (annex 4). In 2011, a project ”Safe Food for Europe – Coordination of research activities and Dissemination of research results of EC funded research on food safety” (FOODSEG) was launched, coordinator – prof. dr. Mindaugas
Malakauskas. Three BP7 programmes were continued from 2008 and completed in 2011: by dr. Violeta Juškienė - (AHI) FEED–TO–FOOD “Reinforcement of Feed to Food Research Center at Institute for Food Technology of the University of Novi Sad” and BALT FOODQUAL “Unlocking Animal Food Quality Research Potential in Baltic Region by Developing Scientific and Technical Capacities of the Research Institute “Sigra”, by prof. dr. Antanas Sederevičius – EMIDA “Coordination of European research in the area of animal health, including emerging threats, infectious diseases and surveillance”. At the end of 2011 we received confirmations regarding implementation of three projects of BP7 programme: by prof. dr. A. Sederevičius – ANIHWA”Animal health and welfare”, by doc. dr. M. Šarkūnas EMIRO “The significance of rodent communities for the transmission and distribution of Echinococcus multilocularis: Ecological and experimental investigations for risk assessment” and by dr. E. Kudirkienė EMIDA “Biology and control of Campylobacter in the chicken supply chain”.

In 2011, LUHS VA also started a project started in 2007 under BP6 programme: BIOTRACER “Improved bio-traceability of unintended micro-organisms and their substances in food and feed chains”; coordinator – prof. dr. Mindaugas Malakauskas.

In 2011, Veterinary Academy implemented 4 COST projects: in 2011 a new project FAIM “Optimising and standardising non-destructive imaging and spectroscopic methods to improve the determination of body composition and meat quality in farm animals” was launched (secondment costs for implementers were covered); coordinator – Daiva Ribikauskienė (AHI); from 2008: FA0805 “Goat-parasite interactions: from knowledge to control” (secondment costs for implementers were covered); coordinator – prof. habil. dr. Saulius Petkevičius; FA0802 “Feed for Health”, coordinator doc. dr. Mindaugas Malakauskas; GEMINI “Maternal interaction with gametes and embryos” (secondment costs for implementers were covered); coordinator dr. – Rasa Nainienė (AHI). A project EUREKA “Establishment of new poultry feeding technology in order to produce better value poultry meat and eggs” was started in 2009 and continued in 2011, coordinator – prof. habil. dr. Romas Gružauskas. In 2011 2 projects were launched coordinated by doc. dr. Mindaugas Šarkūnas: “The efficacy of three different dosing regimens of Drontal Plus and Profender against gastrointestinal helminth infections in dogs” and “The efficacy of three different dosing regimens of Milbemycin Oxime against gastrointestinal helminth infections in dogs” (only purchase of pharmaceuticals was compensated). From 2007 – “Control of Echinococcus granulosus (pig strain, G 6/7) using Praziquantel bites in endemic villages in Lithuania” (secondment costs for implementers were covered); coordinator – doc. dr. Mindaugas Šarkūnas; from 2008 – VISBY “Animal Health, Reproduction and Livestock Production in a Changing Climate” (secondment costs for implementers were covered); coordinator – prof. dr. Vita Riškevičienė; from 2008 – NORDFORSK “Network on Veterinary Parasitology in the Nordic and Baltic region (NVP)” (secondment costs for implementers were covered); coordinator – prof. habil. dr. Saulius Petkevičius.

Table 13.4: LUHS VA international projects carried out over the period between 2008 and 2011

<table>
<thead>
<tr>
<th>Group of projects</th>
<th>COST</th>
<th>EUREKA</th>
<th>BP6</th>
<th>BP7</th>
<th>Others</th>
<th>In total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of projects</td>
<td>2008</td>
<td>3</td>
<td>-</td>
<td>4</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2009</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2011</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Total additional funding received by VA faculties for international projects and funds received under agreements between Lithuania and foreign countries has been compared with the data of 2010 and provided in Table 13.5 In 2011, more funds were received than in 2010 due to a significant increase of the number of agreements: in 2011 – 1 985 227, in 2010 – 1 714 378 Lt. The
biggest share of funds was received by VA faculties under Lithuania’s agreements with foreign countries.

Table 13.5: Funds from agreements of LUHS VA faculties and international projects in 2010 and 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Lithuania's agreements with foreign countries</th>
<th>International projects</th>
<th>Aggregated funds</th>
<th>Valley „Nemunas“ project</th>
<th>In total:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td>(thousand Lt)</td>
</tr>
<tr>
<td>2010</td>
<td>25</td>
<td>1.670,0</td>
<td>9</td>
<td>44,4</td>
<td>1.714,4</td>
</tr>
<tr>
<td>2011</td>
<td>35</td>
<td>1.985,2</td>
<td>11</td>
<td>67,1</td>
<td>2.052,3</td>
</tr>
</tbody>
</table>

Of 35 Lithuania’s agreements with foreign countries signed in 2011, 6 agreements were implemented together with Research Council of Lithuania (RCL): on the initiative of scientists, a scientific research project was prepared (MIP), 2 agreements – under national research programme „Healthy and Safe Food“ (SVE) („Improvement of safety and quality of food raw materials and products for prevention against human campilobacteriosi“, coordinator – prof. dr. Mindaugas Malakauskas, and „Creation of more valuable and safer food products applying hard-phase fermentation of plant material“ (partners), coordinator – doc. dr. Elena Bartkienė), also support from Research Council of Lithuania was received to pay for research visits of the researchers and to draft an application for 7BP project. In the framework of the national food programme an agreement „Healthy and Safe Food“ has also been signed with National Paying Agency under the Ministry of Agriculture (NPA under MoA) („Creation of Animal Nutrition Technology in order to obtain meat, milk and eggs of improved biological value“, coordinator – prof. dr. Romas Gružauskas). The biggest share of funds under agreements and projects in 2011 was received under agreements with NPA – 1 478 461 Lt, the biggest amount was received under Lithuanian Rural Development Programme 2007 – 2012 and Business Valley „Nemunas“ project.

Table 13.6 provides data on the funds of LUHS VA faculties received in 2011 and 2010. Total amount of funds received under agreements in the faculties in 2011 increased in comparison to 2010, however, the amount of the funds earned by Veterinary Faculty and from Lithuania’s agreements with foreign countries grew nearly by double. The main source of funds of both faculties are Lithuania’s agreements with foreign countries.

Table 13.6: Funds from agreements of LUHS VA Faculty and from international projects in 2010 and 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Faculties</th>
<th>Lithuania’s agreements with foreign countries</th>
<th>International projects</th>
<th>Total Funds</th>
<th>Valley „Nemunas“ project</th>
<th>In total:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td>(thousand Lt)</td>
<td>(thousand Lt)</td>
</tr>
<tr>
<td>2010</td>
<td>Veterinary Faculty</td>
<td>9</td>
<td>604,48</td>
<td>8</td>
<td>44,4</td>
<td>648,88</td>
</tr>
<tr>
<td></td>
<td>Animal Husbandry Technology Faculty</td>
<td>16</td>
<td>1 065,52</td>
<td>1</td>
<td>0</td>
<td>1 065,52</td>
</tr>
<tr>
<td></td>
<td>In total:</td>
<td></td>
<td>1 670,0</td>
<td>44,4</td>
<td>1 714,4</td>
<td>1 764,0</td>
</tr>
<tr>
<td>2011</td>
<td>Veterinary Faculty</td>
<td>17</td>
<td>1 063,0</td>
<td>10</td>
<td>55,2</td>
<td>1118,2</td>
</tr>
</tbody>
</table>
Additional funding of LUHS VA research institutes in 2011 increased in comparison to 2010 (Table 13.7). In 2010, the amount of 1 203 600 Lt was received, and in 2011 the amount of additional funds received was 1 511 400 Lt. In 2010 and 2011, the main source of funds of both faculties are Lithuania’s agreements with foreign countries, of which 6 were implemented with Research Council of Lithuania, and the amount of 116 090 Lt of additional funds was received.

<table>
<thead>
<tr>
<th>Year</th>
<th>Institutes</th>
<th>Lithuania’s agreements with foreign countries</th>
<th>International projects</th>
<th>Joint funds (thousand Lt)</th>
<th>Valley „Nemunas“ project (thousand Lt)</th>
<th>In total:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td>Number</td>
<td>Funds (thousand Lt)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Animal Husbandry Institute</td>
<td>14 1 064,27</td>
<td>4</td>
<td>93,63</td>
<td>1 157,9</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Veterinary Institute</td>
<td>1 45,7</td>
<td>0</td>
<td>0</td>
<td>45,7</td>
<td>-</td>
</tr>
<tr>
<td>In total:</td>
<td>1 109,97</td>
<td>93,63</td>
<td>1 203,6</td>
<td>-</td>
<td>1 203,6</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Animal Husbandry Institute</td>
<td>25 1 374,1</td>
<td>2</td>
<td>49,7</td>
<td>1 423,8</td>
<td>1 809,0</td>
</tr>
<tr>
<td></td>
<td>Veterinary Institute</td>
<td>1 87,6</td>
<td>2</td>
<td>0</td>
<td>87,6</td>
<td>1 809,0</td>
</tr>
<tr>
<td>In total:</td>
<td>1 461,7</td>
<td>49,7</td>
<td>1 511,4</td>
<td>1 809,0</td>
<td>3 320,4</td>
<td></td>
</tr>
</tbody>
</table>

3.8. Information on research institutes of LUHS VA

**VETERINARY INSTITUTE**

As of 1 January 2010, Veterinary Institute of Lithuanian Veterinary Academy (VI, Institute) was reorganized and joined to Lithuanian Veterinary Academy (Government Resolution No. 951 of 26 August 2009 „On the reorganization of Veterinary Institute of Lithuanian Veterinary Academy and Animal Husbandry Institute of Lithuanian Veterinary Academy“). Following reorganization of Kaunas Medical University and Lithuanian Veterinary Academy (Resolution No. XI-973 “On reorganization of Kaunas Medical University and Lithuanian Veterinary Academy and approval of the status of Lithuanian University of Health Sciences” adopted by the Seimas of the Republic of Lithuania on 30 June 2010, Official Gazette, No.81-4231, 10 July 2010), the Institute became Veterinary Institute of Veterinary Academy (VA) of Lithuanian University of Health Sciences (LUHS) on 1 September 2010.

Veterinary Institute accommodates a specialized Research Center of Veterinary Medicine and Food Safety. This Center carries out fundamental and applied scientific and experimental development research programmes, which are target-based and ordered programmes, and integrates its activity into the implementation of the mission and strategic development of LUHS Veterinary Academy.

Research directions and tasks in the Institute are formed with respect to the incidence of animal diseases and damages caused by such diseases in Lithuania. Taking into account research directions of Lithuanian Veterinary Academy (approved at the Senate meeting on 16 December 2009, protocol No. 05-02-06), the direction of research at the Institute from 1 February 2010 is
“Epidemiology, aetiology, pathogenesis and prevention of animal diseases and investigations of the consistency pattern of the protective reaction of the organism”; and on the theme of scientific research – “Identification of associated infections of animals and etiological factors of zoonoses, and research in biological changeability”.

From 1 August 2010, the structure of the Institute was enlarged to include three laboratories: Virological Research, Microbiological Research and Parasitological Research.

In 2010, seeking to reduce Institute’s common maintenance and administrative costs, employees have been relocated from the premises in Kaišiadorys to the premises of Lithuanian Veterinary Academy in Kaunas. In 2011, reconstruction of the building (located on Tilžės str. 18, Kaunas) of Veterinary Academy was continued and completed to accommodate the Institute.

Geographical and institutional integration of Veterinary Institute in the research base of LUHS Veterinary Academy following technological renovation of the laboratories of Institute, thanks to the integration into the laboratories of the latest equipment for the diagnostics of virological, microbiological and molecular biology and scientific research will ensure conditions for competent continuation of the implementation of the institution’s programme of scientific field and veterinary medicine and possibilities to take part in prospective MTEP programme. A centre of high scientific level will be created to ensure proper conditions for the investigations of animal health, food raw materials and development of specialists of the highest qualification. Also: to perform investigations of associated virological infections and zoonoses of animals and virological and specific prevention investigations of prevailing infectious factors; to assess molecular epidemiology of separated and arbitrary microorganisms, philogenetic analysis, functional investigations of virological/bacterial albumen and their application in diagnostics of infectious diseases; to perform microbiological investigations of infectious bacterial diseases, zoonoses, their spread among animals and to assess biological characteristics of separated agents and degree of sensitivity to antibacterial substances; to investigate contamination vectors of bacterial diseases common to animals and people and impact of ecological factors on the incidence of bacterial diseases.

13.2 COMMENTS

1. Students have a possibility to take part in scientific work from the first course, but their activeness increases when they start preparing a final thesis, i.e. from the fourth course. Since preparation of the final thesis is obligatory for all students, they are involved in scientific work by 100%.
2. Too few students take active part in the implementation of research projects.
3. Scientific output of all the units of VA remains stable according to the number of articles in ISI WOS with \( IF > 0 \) data bases (the same as in 2010). Since few scientists work in the faculties and institute of VA, the results, in comparison to the contribution falling on one job position are positive.
4. Although involvement of VA units in international programmes and projects slightly increased, however it was insufficient to attract funds to the institution in 2011.
5. The number of COST, EUREKA, BP6, BP7 and other international projects carried out by the units of Veterinary Academy from 2008 is provided in Table 13.4 The data provided show that each year, from 2009 to 2010, VA implemented in average 13 projects, but in 2011 the number of projects grew up to 15.
6. Pursuant to Integrated Science, Studies and Business Valley „Nemunas“ project, which creates a possibility to develop new MTEP areas, create contemporary technologies and new products, prevention and treatment measures, laboratory equipment in 2011 was purchased for: Center of Animal Nutrition and Biotechnologies (1240.112.00 Lt), Center of Animal Health and Quality of Raw Materials of Animal Origin (4440.153.60 Lt).
centres will encourage more effective international cooperation and links with business partners.

13.3 SUGGESTIONS

1. To encourage students’ active participation in scientific research. Increasingly better conditions are created for them to prepare research and final works, because in 2011 and 2012 laboratories and departments acquired new and modern equipment intended for scientific research. Each year more and more funds are allocated for scientific research.

2. To encourage dissemination of the results achieved by LUHS scientists in Lithuania and abroad, in particular by publicizing scientific articles in ISI WOS journals with citing index (Impact Factor) not less than 20% of aggregate impact factor for that category of journals.

3. To encourage scientists of LUHS VA more actively participate in international projects and projects funded by Research Council of Lithuania, in the drafting of monographs, textbooks and teaching books.