LITHUANIAN UNIVERSITY OF HEALTH SCIENCES

VETERINARY ACADEMY

ANIMAL RESOURCES MANAGEMENT
MASTER DEGREE PROGRAMME
STUDY FIELD OF AGRICULTURE AND VETERINARY MEDICINE

(National code 621D91001)

THE SELF–EVALUATION REPORT

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

Head of the self–evaluation group ..... Prof. Vida Juozaitienė
(Signature)

Kaunas
December, 2013

KEY INFORMATION ON STUDY PROGRAMME

Title of the study programme	Animal resources management
National code	621D91001
Higher education type	University
Circle (type) of study	Second
Mode of study and duration in years	Full–time, 2 years
Scope of the programme in credits	120
The language of instruction	Lithuanian
Qualification awarded	Master of animal science
The start of the programme provision	2011
The Registration date of study programme	25–07–2011, Order No 1–01–98

SELF–EVALUATION GROUP

No	Pedagogical title (science degree), name, surname	Position	Telephone (office and mobile)	E–mail address
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CONTENTS

ABBREVIATIONS

CPTE	– Centre of Practical Training and Experiments
CSQA	– Centre for Study Quality Assessment in Higher Education
ECTS	–European Credit Transfer and Accumulation system
EU	– European Credit Transfer and Accumulation system
FAHT	– Faculty of Animal Husbandry Technology
KMA	– Kaunas Medical Academy
LUHS	– Lithuanian University of Health Sciences
LVA	– Lithuanian Veterinary Academy
MA	– Medical Academy
MA RL	– Ministry of Agriculture of the Republic of Lithuania
RL	– Republic of Lithuania
SPC	– Study Programme Committee
VA	– Veterinary Academy

1. INTRODUCTION

1. Lithuanian University of Health Sciences (hereinafter referred to as LUHS) is a state university – the subject of legal rights – acting as a public institution. In the year 1946, the Faculty of zootechnics, training zootechnicians, was opened and science of animal husbandry became independant science consistently improving programme, searching for new teaching and training methods. LUHS is established on the 30 of June in 2010 by the resolution of Seimas of the Republic of Lithuania, according to which Kaunas University of Medicine and Lithuanian Veterinary Academy were merged. LUHS is the largest university of biomedicine sciences that continues the best traditions of both schools.
2. The University has two collegial management bodies – the Council (11members, 5 year tenure) and the Senate (the managing body of 49 researchers, administration members and students) and a sole management body – the Rector, who is elected by the Council. Chancellors and Vice–Rectors provide help for Rector. The Rector heads the university, organizes its activity ensuring the implementation of the strategic activity plan of the university. Rector's orders are obligatory to all LUHS employees, students and listeners.
3. Medical Academy and Veterinary Academy are the main units of the University, which also includes Faculties, Research Institutes, University Hospital, Veterinary Clinics, Centre of Practical Training and Experiments, Theoretical and Clinical Departments, Faculty Institutes, Research Laboratories; other structural and functional units, which provide the needs for studies, research, health care and social and cultural life.
4. The University offers 27 study programmes. More than 6200 students including 517 foreign students from more than thirty five countries are studying in these programmes (Sweden, Spain, Israel, India, etc.).
5. Teaching staff of LUHS consists of 167 professors, 225 associate professors, 333 lecturers and 484 assistant professors (by December 31, 2012). This entire staff provides qualitative studies of the first, second and third circle in biomedical sciences. At LUHS study quality assessment is consistently conducted, monitoring of study process implementation is carried out by study quality assessment commission.
6. LUHS actively participate in Erasmus exchange programme. Students have a possibility to study in foreign universities (up to one year) and go abroad for practice. The programmes for academic exchange are signed with universities in 26 European countries. The majority of ERASMUS partners are in Germany, Spain, France, Finland and in other EU countries.
7. The university contains Career centre, Publishing house, professional museums, bookstore, sport clubs, culture centre, centre of information technologies, a modern library with its division in VA, and other divisions.
8. Veterinary Academy has two faculties: the Faculty of Veterinary and the Faculty of Animal Husbandry Technology. The most important VA divisions participating in the study programme and research are: 7 departments, 1 institute, 2 open access centres, 11 research laboratories, Large Animals clinic, Dr. L. Kriaučeliūnas Small Animal clinic, 3 Training centres (Practical Training and Experiments, Veterinary Continuous Education and Consulting, J. Tacas for Milking Training).
9. The priority activity of Animal Husbandry Technology faculty is to organize study of high quality creating prerequisites and conditions to train qualified specialists of university education, after graduation capable to work successfully in areas related to production and processing of animal origin products both in Lithuania and abroad.

10. The activity of the faculty is governed by faculty Council and the dean. The decisions of the faculty Council are obligatory for faculty employees and students. The dean heads the faculty implementing the requirements of LUHS Statute, and decisions of the faculty Council. Every year the dean makes a report to the faculty Council regarding faculty activity. Pursuant to the position the dean is a member of faculty Council and the rectorate.

11. The present structure of LUHS governing is regarded as optimal, because it comprises all stages of studies and research, whereas the work carried out in divisions are summed up in Rector's annual report, which is submitted to the Council for discussion and approval.

12. The Programme of *Animal Resources Management* is carried out in the Faculty of Animal Husbandry Technology (the faculty). Currently the faculty comprises three departments: Animal Science, Animal Breeding, Animal Nutrition, and Institute of Biological Systems and Genetic Research. Units of other faculties are also involved in teaching of this Programme.

13. Self–evaluation of the Programme was carried out by a group established by the Rector's Order No SC–1–385, 25–04–2013 (Table 1). The group consists of 7 members (5 the university teachers, a master study student, and a representative of employers). The personal input volume of each member of self–evaluation's group depended on member's competence. The self–evaluation report on the master study programme *Animal Resources Management* covers the period from 2011–2012 to 2012–2013 year.

Table 1. Self–evaluation group of the programme of Animal resources management

No	Task	Responsibilities
1.	Introduction	Prof. dr. Vida Juozaitienė
2.	The programme aims and learning outcomes	Assoc. prof. dr. Janina Černauskienė, Ilona Kauzonienė, student Vaida Vedegytė
3.	Curriculum design	Prof. dr. Vida Juozaitienė
4.	The teaching staff	Dr. Natalija Makštutienė
5.	Facilities and learning resources	Dr. Evaldas Šlyžius
6.	Study process and students' performance	Assoc. prof. dr. Saulius Tušas
7.	Programme management	Dr. Lina Ašmenskaitė, studentė Vaida Vedegytė

14. The self–evaluation was performed following the time–table made by the head of the group (Table 2). The preparation of the self analysis was being carried out in stages, simultaneously in all thematic groups. After each stage, joint meetings for the discussion of results and emerging issues were held. The data required were collected according to the schemes selected from the reports of the University and its divisions, from databases, sociological research, legislation acts of the University, conducting teachers' questioning.

Table 2. Timetable to the self–evaluation group

No	Activities	Date
1.	Formation of the self–evaluation group	25–04–2013
2.	Discussion of self–evaluation course and distribution of activities	26–04–2013
3.	Data collection and analysis	to 25–06–2013
4.	Discussion of initial self–evaluation results, discussion of programmes advantages and disadvantages, and means to ensure the quality of the programme	to 25–09–2013
5.	Discussion of self–evaluation summary project	to 05–11–2013
6.	Self–evaluation summary presentment for faculty community and social partners	06–12–2013
7.	Final presentment of self–evaluation summary	19–12–2013

15. Since 2011, the starting year of the Programme, this is the first external evaluation of the programme.

2. ANALYSIS OF PROGRAMME

16. Animal husbandry sector is an important sector of Lithuanian agriculture. Products of animal husbandry products comprise 46.9 percent (2009) of total agricultural production.

17. Intensive animal husbandry and application of new agricultural methods in it contributed greatly to reducing general biovariety in the world, therefore a lot of countries attempt to protect their national livestock resources from extinction, preserving biological variety and ensuring genetic basis for future animal husbandry. Currently, the consequences of genetic variety reduction are manifesting by hereditary recessive diseases; animals resistance to diseases and environmental effects have decreased; their vitality has decreased; animals age gets shorter; the production quality worsens and other negative factors emerge. Rational and ingenious use of livestock genetic resources comprise the conditions to provide the society with a greater variety of healthier, high quality food; to increase efficiency of animal husbandry, thus contributing to the consistent development of the country and its society.

18. In Lithuania and other EU member states the population attitude concerning the healthy way of life is getting stronger – 'green revolution' basically changing the assortment of agricultural production and the structure of the products resources is occurring. To increase the production and its quality, breeding traits of current livestock should be improved consistently; the animal breeding, keeping, handling, and nutrition protecting health and welfare of animals should be properly organized. Such production of animal origin has positive effect on people's health and is valued in the world market.

19. Currently wholesalers' institutions in various countries reject the products from the farms who don't meet high norms for animal welfare (the priorities of EU agricultural policy).

20. The farm activity related to occurrence of animal waste, manure is inevitably facing the results of local and global pollution. The priorities of EU and UNO policy comprise reduction of climate warming consequences; environmental protection; solution of issues regarding renewing energy resources, food and water supply to the population. Trained specialists could be of great contribution to the solution of the issues. The master study Programme of Animal Resources Management also comprises the environmental protection from biological, chemical, physical or any other effect unfavourable to the environment and from the negative results caused by the development of industrial farming; the Programme also contributes to the improvement of environmental quality.

21. The demand of animal husbandry specialists is evident in official information sources: in 2012, as per order of Lithuanian Ministry of Agriculture, the analysis of demand for agricultural qualified workers until the year 2016 was performed ("The analysis of the demand for agricultural specialists and qualified workers"). Consolidated data of the demand for training agricultural specialists and students enrolment are given in Table 3.

Table 3. The average annual demand for specialists of animal husbandry sector in the year 2016

Study programme	Circle (type) of study	Demand for specialists'training	Demand for students'enrolment
Animal husbandry technology	Master	16	22

22. The results of the analysis show the training of agricultural specialists for the development of agriculture and rural area to be not sufficient since 2009, therefore the problems in agriculture, including animal husbandry (particularly in remote areas), get more obvious.

23. To give the reasons for the need of specialists of the study Programme of Animal Resources Management the specific investigation was carried out. Composing a discussion group, the

agricultural and other enterprises or organizations complying to the study specifics were selected: State Animal Breeding Control Service under Ministry of Agriculture, Ministry of Agriculture, Foundation for Assurance of Agricultural Loans, Lithuanian Association of Poultry Breeding, Union of Zootechnicians, etc. The heads of the institutions took part in the investigation.

24. The performed investigation justifies the need for specialists of Animal Resources Management–they have to well know influence of production of animal origin products on environment, the effect of environmental changes on livestock and quality of animal origin resources, peculiarities of technologies sparing animal resources, and to have a good knowledge of animal resources management.

25. The strategy for the rural and agricultural development foresees the intensifying and development of agriculture to highly influence the demand for agricultural specialists in EU market. The sector's service will require specialists ensuring production of animal origin products and their good quality[1].

26. The need of the programme is also related to the decision of the Lithuanian government 1 October 2008, No 1130 "Regarding the approval of integrated science, study, and business centre (valley) "Nemunas" programme development". The master study programme facilitates reaching goals determined in the Lithuanian strategy for the use of EU structural assistance for 2007–2013, in the national strategy for long term support (issues 5–6). The Seventh general programme (one of the main strategic goals is to create economy, based on new knowledge, innovations complying to sustainable management, production and use of biological resources)[2] approved by EU parliament and Council also determines the need of the study Programme.

27. The study Programme of *Animal Resources Management* is usually taken by Animal Husbandry Technology bachelor graduates willing to continue studying. The decrease of the admitted students number is determined by the decrease of the number of graduates of *Animal Husbandry Technology* first level study, and reduction of students' activity in labour market. The education reform implemented in 2009 also influenced a drop in the admitted students' number. Not favourable "basket" system facilitates priorities to choose programmes according to their popularity and study cost (instead of the country demand).

28. In the year 2013, the study programme of *Animal Resources Management* was completed by 11 graduates. The graduates' employment monitoring is executed by general methods of the university. The enquiry by e–mail is arranged every year after the period of 6 months post graduation, i.e. in December. In the year 2013, graduates (64) were questioned. The obtained data show that nearly all graduates got employed according to their qualification. Majority of them work in places complying with the study programme outcomes.

29. The graduates of the Programme seek a successful career in private and public institutions of agriculture and its infrastructure, offices of agricultural consulting service, in the Lithuanian Ministry of Agriculture and its institutions (National Payment Agency, State Control Service for Animal Breeding), public enterprise Centre of Agricultural Information and Rural Business, and etc.

30. The programme is authentic and exclusive because:

[1] Tarybos reglamentas (EB) Nr. 1698/2005 „Dėl Europos žemės ūkio fondo kaimo plėtrai (EŽŪFKP) paramos kaimo plėtrai"
[2] Integruoto mokslo, studijų ir verslo centro (slėnio) „Nemunas" plėtros programa

- Provides specialized knowledge on agricultural and veterinary study issues; develops systemic attitude to the production technologies preserving environment and animal resources and to the importance of environmental effect caused by technologies for rearing animals and producing animal origin food; the knowledge is needed creating and managing resources required for production of animal origin food;
- Is designed to prepare animal husbandry specialists, chiefs, and consultants who perceive the possibilities, prerequisites, limitations of applying newest technologies for livestock breeding, rearing, handling, management; prepares specialists aware of problems in production of animal origin food and know the ways to eliminate them. The specialists having knowledge about animal productivity, health, and factors determining the quality of animal origin food are able to evaluate hazards to animal welfare, and to reasonably preserve genetic variety of livestock while producing safe and qualitative production of animal origin.
- The Programme is designed for master students, who will be able to keep studying in the third study level or will be ready for professional activity.

31. Currently, at the agricultural study direction of LUHS second level programmes of *Animal Resources Management* (621D91001) and *Animal Husbandry Technology* (6211B101) are being implemented. Lithuanian University of Health Sciences is the only Lithuanian institution of higher education executing the programme of *Animal Resources Management*. The programme of *Animal Resources Management* is a new, professionally and structurally specified programme for the area of agricultural sciences with integrated study subjects for designing processes of genetic resources of livestock, the production impact of animal origin products on environment, the impact of environmental changes on livestock and on the quality of animal origin resources, sustainable technologies and design of animal husbandry processes.

32. The study Programme *Animal Husbandry Technologies* is designated to deepen fundamental subjects' (zootechnical field) knowledge regarding producing of animal husbandry production.

33. Similar master's study programmes are being performed in specialised European and world universities (sciences of agriculture, biology, environment), also in the agricultural faculties of classic universities. The programmes of *Animal Resources Management* have different varieties: *Animal Science, Management of Animal Production, Livestock Science* and etc. After analysing a few randomly chosen programmes of foreign universities, the general programme structure was determined to be preserved. It comprises (under different titles, but of similar content) the following subjects: Animal Breeding and Genetics, Advanced Nutritional Physiology Animal Health and Welfare Animal Production, Animal Production Science, Animals and Sustainability Livestock Reproduction and Biotechnology, and etc. In a number of programmers, specialized and created subjects such as *Microbiology, Endocrinology, Tropical Livestock Production, Animal Husbandry in Tropical and Subtropical Regions* are included. Every foreign master study programme is authentic and exclusive (like the master's study programme of *Animal Resources Management* offered at LUHS) – not any completely identical programme was discovered.

34. The faculty has ancient and developed traditions of cooperation with academic, social, and business partners. One social partner participates in the activity of the Programme Committee (further the Committee). Social partners participate in the evaluation of graduation work. The partners contribute to the evaluation of conducted research relevancy and practical application. It is reasonable to keep involving new partners in the process, who would be interested in the activity and would contribute to the programme improvement or initiating and preparing of a new programme – their experience in professional activity, management, and practical issues are of great importance. At LUHS 'Career fests' are organized annually – the employers lay

down their expectations and requests which are taken under consideration updating the descriptions of study subjects and attempted outcomes.

35. The Programme improvement and implementation is based on monitoring of changes: (1) monitoring of fluctuation in knowledge, abilities, and competences at workplaces and labour market; (2) monitoring of higher education problems and development guides in the EU and Lithuanian documentation; (3) improvement of study outcomes, Programme structure and study process; (4) improvement of system for assessment of study outcomes. The Programme structure and study process is being improved regarding the change in tendencies of science development, employers expectations, labour market demand, and students' needs. It complies with the principle of systematic approach to the content design and implementation of education, which is characteristic of the EU higher education institutions.

36. The programme is annually updated taking into account the latest scientific achievements and changes in labour market. Study outcomes are being renewed improving the subjects' content, teaching methodologies. Every year, teachers include the material related to the new achievements or changes into the theory of the subject and/or practical work.

37. The aim of the study Programme of *Animal Resources Management* – to prepare highly qualified, eager for scientific innovation, critical, skilled professionals with the knowledge of specifics for animal resources management, able to assess the latest technology in livestock breeding, farming, keeping, housing, handling, maintenance, feeding and nutrition, optimal organization of animal and environment – friendly production with a focus on product quality and production technology impact to environment; to carry out research work in Lithuania and international academic and business institutions.

38. The aim of the programme (Table 4) corresponds with the mission of LUHS that is declared in LUHS Statute: "to educate and foster creative, honest, educated, independent and entreprising personality" and is consistent with the strategic activity plan of the 2013–2015 year[3]. The Programme contributes to the implementation of the strategic activity objective in the study field – to execute high quality studies providing knowledge of the latest technologies based on research and reflecting the level of a university higher education and qualifications; to develop completely educated, ethically responsible, creative and entrepreneurial personality. The studies are based on the research conducted by the scientists of the university and faculty.

39. The study Programme of *Animal Resources Management* complies with the strategic plans of Lithuanian government, Ministry of Education and Science, and with the aspirations of European Commission (EC). It is consistent with the objectives of the Lithuanian economy development (set in long–term strategy[4] up to 2015), and principles of sustainable development determined in National Sustainable Development Strategy[5], which contributes to the development of graduates' creativity, enabling to enhance competitiveness and development of animal husbandry, to preserve potential of genetic resources in animal husbandry and their rational use; to ensure animals' health and welfare. The above mentioned objectives and principles are highlighted in the concept of long term strategy (up to 2020) development of animal husbandry in Lithuania[6]. The programme outcomes meet the goals to create society of information and knowledge formulated in Lisbon Convention, the Bologna Process Declaration and in the subsequent documents: Prague, Berlin, Bergen, London, Louvain – LLN (Leuven and

[3] http://lsmuni.lt/media/dynamic/files/2030/20132015m.lsmustrateginisveiklosplanas.pdf
[4] Lietuvos ūkio (ekonomikos) plėtros iki 2015 m. ilgalaikė strategija (LR Vyeariausybės 2002 m. birželio 12 d. nutarimas Nr. 853)
[5] Nacionalinė darnaus vystymosi strategija (LR Vyeariausybės 2003 m. rugsėjo 11 d. nutarimas Nr. 1160, atnaujinta 2011 m.)
[6] http://www.laei.lt/x_file_download.php?pid=1497

Louvain – la – Neuve), the Budapest – Vienna Declaration (Budapest– Vienna Declaration), and Bucharest (Bucharest Communiqué).

40. The study outcomes of the Programme are accomplished through the study goal and achieved through study subjects. The objectives of the study programme, correlation between outcomes and subjects are presented in Table 4. The goal of the Programme and achieved outcomes describe a graduate's preparation for research and studies in the third level; for the practical activities requiring specialized knowledge of animal management, complex and unpredictable abilities for problem–solving in business and public organizations; describe graduate's general skills – to organize, analyze, evaluate and solve problems, reason and present research most important objectives and problem solving performance. Aims of the Programme are consistent with the requirements of second level university studies.

41. The complexity level of the study Programme outcomes comply with the VII level study requirements described in the European Qualifications Framework. The programme outcomes evidence the graduates having successfully completed the studies to be prepared to: (1) independent research and/or third level (doctoral) studies, (2) practical activity of a chief, livestock specialist, consultant in workplaces requiring specialized knowledge of the latest technological innovations, understanding and ability to solve problems of animal resources management, the ability to organize work considering the fluctuations in the professional activity, to take innovative decisions based on research after the evaluation of possible alternative solutions and presumable social and ethical consequences of the activity.

42. The objectives and learning outcomes of the Programme are published in University, Lithuanian information sources. Official information about the programme, its aims and mode of studies are presented on the LUHS website[7]. Also, this information is published on the webpage of the Admission Board, in the official University newspaper "Ave Vita" and leaflets designed for secondary school–leavers. The information about the objectives and learning outcomes of the course units is available in the LUHS information database[8]. During the Lithuanian higher education institutions informative events (Science days, Fair of HEI) publications and leaflets are disseminated where the objectives and learning outcomes of the programme, mode of studies, duration of the programme, acquired degree and professional qualification are described. Information associated with the programme is presented to the Ministry's of Education and Science of the Republic of Lithuania information system AIKOS[9]. Annually *Doors open* days are organized at LUHS during which pupils, their parents and teachers are supplied with the information about the rules of acceptance to the University, the aims and outcomes of the programme, further studies and career opportunities.

43. The study outcomes particularizing the objective of the study Programme, do not duplicate one another. Study results will provide the necessary knowledge and skills to gain a whole. The study outcomes of the study subject level formulate the study goals defined in the objectives of the Programme (Table 4). The correlations of study outcomes and outcomes of study subjects are presented in subjects' descriptions (Annex 1).

[7] http://lsmuni.lt/lt/stojantiesiems/lsmu-studiju-programos/magistrantura; http://lsmuni.lt/media/dynamic/files/3058/gyvniniiteklivaldymas.pdf
[8] https://sis.lsmuni.lt/visiems/Visiems/dalyku_paieska.aspx
[9] http://www.aikos.smm.lt/programos.htm?m=program&a=displayItem&id=621D91001

Table 4. The correlation between objectives, outcomes, and study subjects of the study programme of Animal ResourcesManagement

The aim of the study Programme – to prepare highly qualified, eager for scientific innovation, critical, skilled professionals with the knowledge of specifics for animal resources management, able to assess the latest technology in livestock breeding, farming, keeping, housing, handling, maintenance, feeding and nutrition, optimal organization of animal and environment – friendly production with a focus on product quality and production technology impact to environment; to carry out research work in Lithuania and international academic and business institutions				
Category of learning outcomes	**Outcomes of the second cycle** According order No.V–2212 of 21 November 2011 of the Minister of Education and Science of the Republic of Lithuania	**Learning outcomes**		**Study subjects**
1. Knowledge and Its Application	Basic or applied research (art projects test part) based on the results of the latest study or activities in the field of knowledge, being able to apply it in problem solving in a new or unfamiliar environment, in research or engaging in professionally artistic activities implementing innovations	**1.1**	To know newest technological achievements, ideas and principles of livestock breeding, keeping, handling, maintenance, feeding and nutrition, to understand possibilities, assumptions and limitations of their practical application	GTF/BIO/GIV–M01 Farm animal genetic resources GTF/GL/GIV–M01 Production of animal, quality and environment GTF/GM/GIV–M04 Modeling of Animal Husbandry Processes
		1.2	To have deep knowledge of animal production, animal welfare and health and factors influencing animal production quality	VF/MH/GIV–M01 Animal hygiene and wellness
		1.3	To know and understand the principles of animal production process management, methods, problems and ways of their solutions	VF/MH/GIV–M01 Animal hygiene and wellness GTF/GL/GIV–M01 Production of animal, quality and environment GTF/GM/GIV–M01 Feed Bioconversion GTF/GM/GIV–M04 Modeling of Animal Husbandry Processes GTF/GL/GIV–M07 Biotechnology in animal husbandry
2. Research skills	capable to analyze, synthesize and evaluate studies, for scientific (artistic), professional activity and for implementation of innovation in required studies, capable to integrate knowledge and manage complex situations, make decisions when there is no detailed and defined information, evaluate ways for alternative solutions and the potential impact on the environment	**2.1**	To be able to organize, analyze and evaluate information from various sources required for research of animal breeding, nutrition, keeping and reproduction.	GTF/VG/GIV–M01 Research Methodology and Statistical Analysis GTF/GL/GIV–M07 Biotechnology in animal husbandry VF/NL/GIV–M02 Optimisation of animal reproduction GTF/GM/GIV–M04 Modeling of Animal Husbandry Processes GTF/GL/GIV–M01 Production of animal, quality and environment GTF/GM/GIV–M01 Feed Bioconversion VSF/SMK/GIV–M02 Management of Business Projects
		2.2	To be able to integrate the knowledge in organising animal	GTF/VG/GIV–M01 Research Methodology and Statistical Analysis GTF/GL/GIV–M07 Biotechnology in animal husbandry

			breeding research, nutrition, storage and reproduction.	VF/NL/GIV–M02 Optimisation of animal reproduction GTF/GM/GIV–M04 Modeling of Animal Husbandry Processes GTF/GL/GIV–M01 Production of animal, quality and environment VSF/SMK/GIV–M02 Management of Business Projects GTF/BIO/GIV–M02; GTF/GI/GIV–M01; GTF/GL/GIV–M02; GTF/GM/GIV–M02 Research – 1
3. Subject–Special Skills	Able to apply the knowledge, and on the basis of knowledge, to prepare new tools (technical, methodological, informational, organizational–managemental) required for research, activities related to education, culture and art or innovation development	**3.1**	To apply environmentally and animal–friendly production technologies	VF/MH/GIV–M01 Animal hygiene and wellness VF/NL/GIV–M02 Optimisation of animal reproduction GTF/BIO/GIV–M01 Farm animal genetic resources GTF/GL/GIV–M01 Production of animal, quality and environment GTF/GM/GIV–ME07 Good manufacturing practice in feedstuff production GTF/GL/GIV–M06 Biotechnology in animal husbandry VSF/PMK/GIV–M01 Bioeconomics MF/BCM/GIV–ME02 Recycling and utilisation of animal origin by–products and waste GTF/BIO/GIV–M03; GTF/GI/GIV–M02; GTF/GL/GIV–M03; GTF/GM/GIV–M03; GTF/VG/GIV–M03 – Research – 2
		3.2	To evaluate animal production technology and animal production impact on the environment in the context of sustainable development and be able to select the impact reducing methods	GTF/BIO/GIV–M01 Farm animal genetic resources VF/NL/GIV–M01 Optimisation of animal reproduction GTF/GL/GIV–M01 Production of animal, quality and environment VF/MH/GIV–M01 Animal hygiene and wellness GTF/BIO/GIV–M04;GTF/GL/GIV–M04; GTF/GM/GIV–M06; GTF/VG/GIV–M04 Research – 3
		3.3	To be able to assess the risks to animal welfare and health, producing safe and high quality animal production, recommending risk management tools to resolve the problems and implement the decisions	VF/MH/GIV–M03 Innovative Technologies of Milk Secondary Raw Materials GTF/GL/GIV–M01 Production of animal, quality and environment GTF/GL/GIV–M07 Biotechnology in animal husbandry GTF/GM/GIV–ME07 Good manufacturing practice in feedstuff production VF/MH/GIV–M02 HACCP in food factories VF/NL/GIV–ME02 Influence of Nutrition towards the Prevention of Animal Diseases GTF/MH/GIV–M1 Production of Ecological Products and Hazards GTF/GL/GIV–M06 Ethical of biotechnology GTF/GL/GIV–M08 Practice
		3.4	To be able to create and effectively manage the resources needed to produce animal production	VF/NL/GIV–M01 Optimisation of animal reproduction GTF/BIO/GIV–M01 Farm animal genetic resources VSF/SMK/GIV–M02 Management of Business Projects

		3.5	To rationally preserve genetic diversity of livestock	GTF/BIO/GIV–M01 Farm animal genetic resources VF/MH/GIV–M01 Animal hygiene and wellness GTF/GL/GIV–M06 Ethical of biotechnology VF/MH/GIV–ME02 Total Quality Management
		3.6	To apply managemental thinking, analytical and logic skills implementing the EU strategy in animal husbandry sector of agriculture	GTF/GL/GIV–M06 Ethical of biotechnology VSF/PMK/GIV–M01 Bioeconomics VSF/SMK/GIV–M01 Economic–social development of rural GTF/BIO/GIV–M05; GTF/GL/GIV–M05; GTF/GM/GIV–M05; GTF/VG/GIV–M05 Master's final thesis
4. Social Skilss	Capable to clearly and convincingly convey generalized information with its critical assessment.to professionals and other persons. Takes responsibility for quality of his/her own and his/her subordinate employees' activity and its evaluation accordance with professional ethics and citizenship. Takes responsibility for his own and for his/her subordinate employees' performance improvement.	**4.1**	To be able to convey to colleagues and the general public in (written and orally) consistent and comprehensible thoughts about knowledge, research results, the decisions taken of the studied area.	All study subjects
		4.2	To be able to take responsibility for the quality of one's own and others activity and its development in accordance with professional ethics and citizenship	All study subjects
5. Personal Skilss	Capable of independently planning learning process independently choose development direction and further training (to learn) self able to benefit from the research (art activities) knowledge, have research experience and skills of systemic and strategic thinking for professional self–development and research (artistic activity). Capable to make innovative decisions evaluating the potential consequences for activities. Conducts activity perceiving moral responsibility for the activity and its impact on social, economical and cultural development, welfare, and environment.	**5.1**	To be able to independently plan the learning process, choose the training direction, gain new knowledge and skills required to carry out research, and make practical solutions	All study subjects
		5.2	To be capable of original and critical thinking and evaluation of ongoing local, regional, and global environmental changes and their effects on farm animals and quality of animal origin raw materials	All study subjects

44. Summing up, it's possible to say that the Programme under implementation is unique; it corresponds to the mission of the university, contemporary tendencies of science, expectations of students, employers, and society. The Programme's objectives, outcomes, content, and qualification awarded match up. Deep traditions of cooperation with academic, social, and business partners providing the opportunity to react flexibly to new challenges and to improve the Programme are developed. The tools for lifelong learning under the provisions of the Bologna process are being implemented actively. Despite the mentioned strengths of the Programme, the investigation regarding the Programmes' demand should be conducted in the country regions – it would facilitate determining the relevance of Programme objectives and outcomes' practical application in the context of Lithuania and EU; making corrections in the Programme's name (it's not well understandable for social partners); enhancing its international scale (it would ensure teachers' more rapid qualification improvement); development of monitoring system for graduates' employment, graduates abilities to find workplaces in foreign business, public, and international institutions. The decrease in the number of potential students and the increase of competition between the universities urge to look for new markets. One of the possibilities – creation of united programmes with the eastern European universities.

3. THE CURRICULUM DESIGN

45. The Programme structure is pursuant to classifiers constituting study fields (approved by Order of the Minister of Education and Science of the Republic of Lithuania, No V–222, 19 February 2010), on the basis of which (since 1 September 2010) the study Programme is executed in the field of agriculture and veterinary. Starting with 1 September 2010, a new national study credit system, in accordance to European credits transfer and accumulation system (ECTS) is applied.

46. The programme structure is in compliance with the requirements laid down in the order of the Minister of Education and Science of the Republic of Lithuania No V–826 "Regarding the approval of the general requirements for master's degree study programmes" 3 June 2010. The compliance is presented in Table 5.

47. Duratin of master students' study – 2 years or 4 semesters. The study Programme volume – 120 credits, when credits comprise 26.7 conventional hours of student's work (in lecture halls, laboratories, independent work, etc.).There are 32 credits in the first semester; 28 – in the second; 30 – in the third and fourth (in each).

48. The logical correletion between the study subjects and their sequence in a semester are presented in Table 6. The logics is based on the following attitudes: (1) the subjects of the study field deepen and expand special theoretical knowledge for management of animal origin resources and develop special skills; (2) elective subjects deepen specific theoretical knowledge and develop special skills; (3) practice provides students with the knowledge and abilities for independent research, for preparation of graduation work and practical activity.

49. Subjects of agricultural and veterinary study field (including research and graduation work) comprise 75 percent of the programme structure; 25 percent – elective subjects and subjects designed to get prepared for practical activity. The volume of theoretical subjects in credits is sufficient to successfully achieve the outcomes of the programme, and the credits for students' independent research work, practice, and graduation work are sufficient to achieve the objective of the programme.

50. The subjects of agricultural science field, having content of higher problematic and scientific level than that of the first level subjects, comprise 60 percent or 50 percent of the study Programme volume. These subjects are designed to widen theoretical knowledge, in particular related to livestock breeding, rearing, handling, management, new achievements in feeding and

nutrition, management of production processes of animal origin products. The subject of *Farm animal genetic resources* is fundamental in the study of subjects for management of special animal resources. The subject forms the knowledge on the use of animal genetic resources; the consequences and perspectives related to that use; the importance of biologic manipulation with the genetic information of organisms and compliance with ethical principles. The subject of *Feed bioconversion* widens the knowledge on conversion of feeds variety in animal's organism and helps to evaluate the need of energy to maintain vital needs of animals and produce production. The subject of *Research Methodology and Statistical Analysis* is designed to develop the system of knowledge on research methodology and skills in the research area. It formulates the system of knowledge for mathematical and statistical data processing methodology or analysis and capabilities to apply research methods using special computerized programmes. Specialized abilities for problem analysis and versatile assessment are developed by the following subjects: *Animal hygiene and wellness, Optimization of animal reproduction, Production of animal, quality and environment, Modeling of Animal Husbandry Processes.* The study of *Bioeconomics* develops abilities to form attitude to the use of biotechnologies, attitude to the impact of this usage on progress of the economy, caused threats; deepens realization of occurring tension between the newest technologies and standards of morality, and develops the ability to find ways to avoid the tension. The subjects of high problematic and scientific level are studied in semesters 1–3.

Table 5. Provision of legal requirements for the curriculum design

Requirements laid down in the order of the Minister of Education and Science of the Republic of Lithuania "Regarding the approval of the general requirements for master's degree study programmes", 3 June 2010	**Curriculum**			
	ECTS	Hours	Hours of contact	Hours of independent work
17. "Scope of the study programme is not less than 90 and not more than 120 study credits. Out of them:"	120	3200	1320	1880
17.1 "not less than 60 study credits should be of the study field subjects, the content of which is of a higher problematical or innovative level, than the subjects of the first cycle (on which the former are based)"	60	1600	1050	550
17.2 "not more than 30 study credits shoul be of elected subjects designated to prepare for doctoral study or practical activity, subjects of another field and general subjects of university studies"	30	800	270	530
17.3 "not less than 60 study credits are allocated for preparation and defending of final work"	30	800	0	800
18. "Not more than 5 subjects are studied each semester. Each semester completes with an examination or evaluation of an independent work performed by a student. In case a system of a cumulative score is used, intermediate evaluations can comprise a part of the examination grade"	Every semester 5 subjects are studied. The studies of the subjects are completed with an examination, practical work; research – with the evaluation of a report prepared by a student; the graduation work of a master student – wth the evaluation of preparation and defence of student's graduation work. Intermediate evaluations of subjects comprise a cumulative part of a grade defined in the description			

51. The subjects selected by students comprise 15 credits. Elective subjects provide students with additional specific theoretical knowledge, particularly needed for chosen scientific or practical problem discussed in the thesis completing the study. Students have a free choice of elective alternative subjects, foreseen in the semesters' subject list.

52. In the last semester of the study, students perform *Practice*, during which they formulate the knowledge system for management of animal origin resources; abilities to analyse and independently evaluate alternatives, implement novelties in both private and public sectors of agriculture and animal husbandry. The theme of the thesis is taken into account selecting the practice venue. It enables to collect data not only for the practice report, but also for the preparation of the thesis.

53. The completion of the Programme is the evaluation of the graduate's competence during the thesis defence. For that purpose, a research paper, executed in the first, second, and third study years, is foreseen in the plan of the study Programme. The total is 15 credits (15 % of the Programme volume). For the preparation of master's thesis, which is prepared in the fourth semester, 15 credits (15 % of Programme volume) are earned.

54. Performing independent study of theoretical solutions on a chosen theme, a student widens the knowledge acquired during the study process and practice and consolidates it during discussions with the supervisor of the thesis. The research abilities are consolidated independently writing the thesis, for preparation of which systemic, comparative, logical analysis of scientific literature was used. In the thesis the student has to demonstrate theoretical knowledge on the theme, abilities to identify a research problem; to create or adapt methods for investigations. Possible ways for problem solution and conclusions based on the results of theoretical and practical studies have also to be presented. The data for the thesis might be collected during the practice or research trials; the supervisor includes questions related to the thesis into the practical assignments or research.

55. Preparing master's final thesis, students are guided by "Methodical recommendations for preparation, statistical data processing, presentation of veterinary medicine, veterinary food safety, and animal husbandry technology study programmes master's thesis" (G. Januškevičienė, A. Januškevičius, 2011; approved by FAHT, 15 November 2011; protocol No 09 (49). The methodical recommendations clearly determine the paper volume in pages; obligatory structural parts, their purpose, and content requirements are detailed, samples of headings, summaries are given. Requirements for the thesis design, layout, and list of reference literature are presented. The thesis supervisor provides consultations personally in case students have any questions related to the thesis.

56. The strategy of teaching, learning, and evaluation is revealed through the structure of the Programme subject. The teachers coordinating the Programme's subjects (in compliance with the university's order) point out the Programme's outcomes (the accomplishment of which is facilitated by the particular subject) in the descriptions of the subjects; methods applied in the study and methods for evaluation of student's achievements are also determined (Annex 1). The objectives, themes, and intended results of all subjects taught by the Programme are compatible with the outcomes of the study Programme. The particularity and compatibility of the taught subjects themes with the study outcomes are evaluated by the Committee for the Programmes of Animal Husbandry Technology, Animal Resources Management. The descriptions of the subjects are updated annually and revised by the Committee up to the beginning of the coming year. The teachers of the programme, collaborating and communicating with each other, share their experience, discuss the content of subjects and assignments. It facilitates coordination of subject themes and contents and their adjustment to contemporary actualities.

57. The outcomes of the study Programme are assigned into four groups of acquired knowledge, abilities, and attitudes of values. The knowledge is formulated: 25.0 percent of taught subjects; special abilities – 83.3 percent of subjects (the thesis included); social and personal abilities – by all taught subjects.

58. The methods of active teaching/learning are reflected in the descriptions of subjects.
    - The knowledge is provided during interactive lectures, seminars, practical classes, participating in discussions; during students' studying main and supplementary scientific material and other sources; also inviting business representatives to lectures.
    - Special abilities are developed not only during interactive lectures, but also during practical classes looking for solutions of environmental impact caused by technologies of animal rearing and production of animal origin food; planning resources required for the production of safe and high quality animal origin food; conducting impact analysis of a variety of local, regional, worldwide changes on livestock and quality of animal origin raw materials; taking reasonable decisions; formulating problematic questions related to animal resources management and control; participating in discussions; performing other important specialized tasks; independently studying research articles, monographs, dissertations and their abstracts, other science publications; conducting trials in enterprises – the skills for trial conducting are developed.
    - Social skills are developed arranging team or individual work, writing science papers and presenting them publically, participating in discussions (asking questions, answering with argumentation).
    - Students develop their personal skills studying basic and supplementary scientific material and other sources independently; writing science papers and presenting them publicly, carrying out team work; performing individual tasks which enclose investigation issues and the problem solution ways; conducting research, preparing reports, presenting results of conducted investigations, analysing them with teachers and in peer groups, giving argumentation to critical questions, evaluating and maintaining their own position.

59. The ways of students' teaching and learning are pursuant to the form description of full–time and continuous studies[10]. The contact hours composed of lectures, consultations or lectures, practical classes and consultations. Contact work comprises 1320 hours (41.35 %); independent work – 1880 hours (58.7 %) of the total Programme volume (Table 5). During lectures and practical classes, visual means (Microsoft Power Point) available to students on intranet system FirstClass[11]. During the practical classes students make presentations of their individual and team assignments, participate in peer discussions on the problems analysed.

60. To achieve learning outcomes active learning/teaching methods are applied: situations analysis and analysis of practical samples, team work, presentation of independent projects and their discussion, and etc. The methods and forms of classes are made compatible.

61. The structure and content of individual work is determined by the teacher coordinating the subject. The ratio of subject/module credit contact and private work hours is determined according to the intended outcomes of the study. Contact hours (depending on study cycle) comprise at least 10 percent, but not more than 75 percent of credit hours; lectures comprise not more than 30 percent of contact hours.

[10] patvirtinta LR Švietimo ir mokslo ministro 2009 m. gegužės 15 d. įsakymu Nr. ISAK-1026
[11] http://fc.lsmuni.lt/

Table 6. The plan of Animal Resources Management second cycle study and its implementation in semesters of 2013–2014

First Year					
Semester 1			Semester 2		
Code of Subject	**Subject/module**	**Credits**	**Code of Subject**	**Subject/module**	**Credits**
GTF/BIOGIV–M01	Farm animal genetic resources	10	VF/MH/GIV–M01	Animal hygiene and wellness	5
GTF/VG/GIV–M01	Research Methodology and Statistical Analysis	7	VF/NL/GIV–M02	Optimisation of animal reproduction	3
GTF/GM/ GIV–M01	Feed Bioconversion	5	GTF/GL/GIV–M01	Production of animal, quality and environment	10
GTF/BIO/GIV–M02 GTF/GI/GIV–M01 GTF/GL/GIV–M02 GTF/GM/GIV–M02 GTF/VG/GIV–M02	Research – 1	5	GTF/BIO/GIV–M03 GTF/GI/GIV–M02 GTF/GL/GIV–M03 GTF/GM/GIV–M03 GTF/VG/GIV–M03	Research – 2	5
	Electives of the programme	5		Electives of the programme	5
Total		**32**	**Total**		**28**
Electives of the programme			Electives of the programme		
GTF/GL/GIV–M07	Biotechnology in animal husbandry	5	GTF/GM/GIV–M1	Good manufacturing practice in feedstuff production	5
VF/NL/GIV–ME02	Influence of Nutrition towards the Prevention of Animal Diseases	5	VF/MH/GIV–M03	Innovative Technologies of Milk Secondary Raw Materials	5
MF/BCM/GIV–ME02	Recycling and utilisation of animal origin by–products and waste	5	GTF/MH/GIV–M1	Production of Ecological Products and Hazards	5
VSF/SMK/GIV–M02	Management of Business Projects	5			
Year 2					
Semester 3			**Semester 4**		
Code of Subject	**Subject/module**	**Credits**	**Code of Subject**	**Subject/module**	**Credits**
VSF/PMK/GIV–M01	Bioeconomics	5	GTF/GL/GIV–M08	Practice	15
GTF/GM/GIV–M04	Modeling of Animal Husbandry Processes	10	GTF/BIO/GIV–M05 GTF/GL/GIV–M05 GTF/GM/GIV–M05 GTF/VG/GIV–M05	Master's final thesis	15
GTF/GL/GIV–M06	Ethical of biotechnology	5			
GTF/BIO/GIV–M04 GTF/GL/GIV–M04 GTF/GM/GIV–M06 GTF/VG/GIV–M04	Research – 3	5			
	Electives of the programme				
Total		**30**	**Total**		**30**
Electives of the programme					
VF/MH/GIV–ME02	Total Quality Management	5			
VF/MH/GIV–M02	HACCP in food factories	5			
VSF/SMK/GIV–M01	Economic–social development of rural	5			

62. Summing up, it's possible to say that the Programme structure is pursuant to the requirements of law acts. The Programme content meets the newest science achievements, is relevant and consistent – the subjects of study area deepen and widen special knowledge and develop special abilities; elective subjects provide knowledge and abilities for independent research and for the preparation of master thesis. The Programme volume is sufficient to achieve study outcomes. The themes of subjects are compatible with study outcome; the applied active learning/teaching methods permit to achieve study outcomes and are compatible with the study types. In the study process it is reasonable to review the structure of the programme, to specify the number of hours for theoretical lectures, practical classes, and independent work in respect to optimal time needed to achieve the intended goals; to intensify the implementation of innovative teaching methods; changing study methods to renew the themes and structure of the subjects.

4. THE TEACHING STAFF

63. To implement the objectives of the Programme it is attempted to consistently improve the staff of high quality engaged in the Programme (Table 7). In the academic year of 2011/2012, 45 teachers worked in the programme. Currently, (2012–2013 year) – 42 teachers work in the Programme (out of them – 39 doctors of sciences, 15 – professors, 17 – associated professors, 7 – lecturers; 2 study field subjects are delivered by teachers holding no science degree; 1 study subject is delivered by a teacher–assistant.

Table 7. The number of the Programme teachers in 2011–2013

Position	The number of teachers in the academic year	
	2011–2012	2012–2013
Professors	15	15
Associated professors	13	17
Lecturers	16	9
Assistants	1	1

64. The qualification structure of teachers employed in the programme complies with the minimal qualification requirements for the teachers' of master studies, determined by the order of the minister of Education and Science of the Republic of Lithuania "Regarding approval of description of general requirements" (Table 8). Professors comprise 35.7 percent associated professors – 40.5 percent; lecturers – 21.4 percent of total teachers' number engaged in the programme.

65. The fluctuation of teachers working in the Programme is not very intensive. It is caused by a variety of factors: one teacher got retired and was replaced by the other; one teacher was invited to work in the administration; The teachers' workload changed due to fluctuation in elective subjects; a few teachers moved to higher pedagogical positions.

66. The university teachers dominate in the Programme – 88.1 percent of a total number. Part–time teachers are invited in case of a short time need.

67. The Programme teachers meet the principles for the LUHS teachers' choosing and assessment[12], the order for organising competitions for teachers and researchers tenure[13]. To ensure the

[12] http://lsmuni.lt/media/dynamic/files/1674/lsmu_darbuotoju_parinkimo_ir_vertinimo_principai_nr19-09_20120329.pdf

[13] LSMU Senato 2010 m. gruodžio 23 d. nutarimu Nr. 4-3 patvirtinta ir 2012 m. gegužės 30 d. nutarimu Nr. 21-08 pakeista Lietuvos sveikatos mokslų universiteto dėstytojų ir mokslo darbuotojų pareigoms eiti konkursų organizavimo ir atestavimo tvarka

selection of the best teachers, majority of teachers are admitted for a 5 year tenure. The competitions for positions are organised following the order set by the internal University legislation publicly announcing competitions, where eligible candidates can participate from Lithuania and foreign countries. The order encourages the employees to work effectively and improve their quality. The procedure of attestation and selection of teachers for positions (excluding professors) is conducted by LUHS VA Commission for Admission and Attestation of teachers and researchers. Professors' attestation and selection procedure is performed by the University Commission of professors and senior researchers headed by the Rector.

Table 8. The programme teachers' qualification and its compatibility with the general master's study requirements in 2011–2013

Requirements laid down in the order of the Minister of Education and Science of the Republic of Lithuania "Regarding approval of description of general requirements for the postgraduate study programs," June 03, 2010, No V–826	**In the Programme**
Not less than **80 %** of all study subjects teachers have to hold science degree (in case the programme is designated to prepare for doctoral studies)	**92.8 %** of programmes teachers hold science degree
Not less than **60 %** of all study subjects teachers have to hold science degree (in case the programme is designated to preparefor practical activity)	
Not less than **40 %** of teachers' research area have to be compatible with the subjects they teach	**95.2 %** of teachers' research area is compatible with the subjects they teach
Up to **40 %** of teachers of the study area can be practitioners, in the last 7 year having acquired experience (of at least 3year) in the professional activity compatible with taught applicable subjects	**2.4 %** of the study area teachers are practitioners
Not less than **20%** of the area subjects volume has to be taught by teachers in professors positions	**35.7 %** of the study volume is taught by teachers in professors positions

68. The average work period at the University of teachers engaged in the programme is 14.7 year: out of them professors – 22.1 year; associated professors – 11.6 year; lecturers – 8.0 year; teachers not holding a sc. degree – 7.3 year. The greatest pedagogic experience – 35 year, and the least – 4 year. It evidences great experience of the teachers engaged in the programme.

Table 9. Age profile of the academic staff

Position	**Total**	**Out of them in age groups**									**Average age**
		25–29 year	30–34 year	35–39 year	40–44 year	45–49 year	50–54 year	55–59 year	60–64 year	Over 65 year	
Professors	15	–	–	–	2	1	4	5	2	–	**53.7**
Associated professors	17		1	3	7	3	1	1	2	–	**45.2**
Lecturers	9	1	2	1	5	–	1		–	–	**39.9**
Assistants	1	–	–	–		–	–	1	–	–	**55.0**
Total	**42**	**1**	**3**	**4**	**14**	**4**	**6**	**7**	**4**	**–**	**47.4**

69. The average age of the teachers employed in the programme – 47.7year; out of them professors; – 53.7 year; associated professors – 45.2 year; lecturers – 39.9 year. The youngest teacher

science doctor is 32 years old, and the oldest teacher science doctor – 62 years old (Table 9, Annex 2).

70. The teachers' workload and its distribution is determined by "Regulation of calculating pedagogic workload and funds for work payment for the divisions of Lithuanian Health Science University. The teacher's (standard full– time position) workload consists of: (1) organisation and realisation of studies; conducting of research; (2) the application of research outcomes in the study process; (3) accumulation of science knowledge; 4) health care activity related to the study process; (5) development of creative activity; (6) culture development; 7) participation in another activity important for the University and its divisions. The structure proportions of the full–time work load are set by the head of the division ensuring execution of study process performed by the division, activity related to the studies, and also the conditions for a teacher during the tenure to meet the minimal requirements of the competition and attestation arrangement order for the positions of LUHS teachers and researchers.

71. The implementation quality of the study Programme's objectives and tasks depends on the teachers' qualification and their sufficient number. In the biomedicine science area, the student–teacher ratio (12–1) is determined by the methodology for financing of Lithuanian state universities. During the time period of 2011/2012–2012/2013 on average one programme teacher was calculated for 0.4 students (calculating approximated students). The advantage of a lower ratio than that recommended in the master's programme is that teacher can devote more time for individual work with every student, therefore, the study quality improves; on the other hand, a low ratio increases the study cost, one teacher has to teach a greater number of subjects.

72. Within the last two years, master's thesis and students' research work was supervised by science doctors professors–36.4 percent; associate professors–18.2 percent; lecturers – 36.4 percent (out of them 9.1 % not holding a science degree. Annex 1.) The teachers engaged in the programme perform research on animal husbandry, animal genetics and breeding, animal nutrition in other science areas also, and publicize their results in scientific articles and studies. The research area of majority teachers employed in the Programme coincide with the subjects they teach and the study Programme (Annexes 2 and 3).

73. Master studies are based not only on the research of teachers' employed in the Programme, but on practical experience in the area of the subject taught. The average practical work experience of teachers' employed in the Programme is 9.5 year: out of them that of professors – 14.8 year; associated professors – 7.0 year; lecturers – 4.9 year; teachers without a sc. degree – 4.0 year. The largest amount of work experience – 34 year; the least – 3 year (Annex 2). This experience in practical work enables to convey the knowledge needed for future graduates to get prepared for their activity.

74. The teachers employed in the programme participate in research preparing applications of science projects, participating in the projects as executers and as leaders giving consultations and making experiments, publicizing the research results in science publications and conferences in Lithuania and abroad (Table 10).

75. The Programme teachers implemented 7 national and 4 international scientific projects. The most significant are the following: programme PROMOST "The effect of marine algae (*Schizochytrium sp.)* in rabbit feeding on health properties of meat during cold sporange under modified atmosphere" [2013–2015]; EUREKA project "Establishment of new poultry feeding technology in order to produce better value poultry meat and eggs" [2009–2012]; "Healthy and safe food" [2011–2015]; "Determination of genotype impact on the bovine intermuscular fat amount and structure of fat acids and means to improve beef biological value" [2011–2012]; "Promotion of science innovations applying principles of good hygiene and HACCP in a farm –

in a primary chain of crop, flour, and bakery producton" [2007–2013]. Scientists have also conducted independent research.

Table 10. The list of 2011–2013 the most important publications of *Animal Resources Management* programme teachers

Code	Name	Quantity
K2b	Teaching book	14
K2c	Teaching and methodical aid	21
K4d	Other books	2
N5	Patent registered in Lithuania	2
P1b	Scientific paper in conference publication collection LRC–approved DB	3
P1c	Scientific paper in conference publication in other DB	3
P1d	Scientific paper in peer–reviewed foreign publication of international conference	19
P1e	Scientific paper in peer–reviewed publication of Lithuanian international conference	10
P2a	Scientific paper in non–reviewed foreign publication of International Conference	5
P2c	Scientific paper in non–reviewed publication of Lithuanian conference	4
R1	Doctoral thesis	2
S1	Scientific paper in ISI Web of Science (100 of quoted. Indicator)	110
S2	Scientific paper in ISI Master Journal List	5
S3	Scientific paper peer– reviewed in scientific publications which are assessed on the other DB	23
S5	Scientific paper in other peer–reviewed publications	5
S6	An article in popular scientific publication	53
T1a	Thesis on ISI Web of Science and ISI Proceedings	2
T1b	Thesis on ISI Master Journal List	7
T1c	Thesis in other DB	1
T1e	Thesis in other peer–reviewed publications	50
T2	Conference thesis in non–reviewed publications	91
Y	Chapter of a book	3
	Total number of publications	**435**

76. Programme teachers R. Gružauskas, V. Juozaitienė, I. Miceikienė are membrs of commission for doctoral studies. The teachers working in the Programme supervise doctoral students' work; they are members of disertation defence board and reviewers of dissertations.

77. The teachers employed in the Programme are members of editorial boards of international science journals, organisers and members of international conferences. Prof. P. Matusevičius is a member of editorial board of science publication "*Polish Annals of Medicine*". Prof. Hab. Dr. H. Žilinskas is chief editor of "*Veterinarija ir zootechnika*" (science publication of Lithuanian University of Health Sciences), whereas Prof. Dr. I. Miceikienė, and A. Šalomskas are members of the editorial board; Prof. Dr. B. Bakutis, Prof. Dr. R. Gružauskas, Prof. Dr. A. Kučinskas also work in the editorial board of the journal.

78. The teachers employed in the Programme participate actively in a variety of social organizations: Union of Lithuanian Zootecnicians, Lithuanian Black–and–White Cattle Breeders' Association, Lithuanian Cattle Breeders' Association, Lithuanian Red Cattle Breeders' Association, Lithuanian scientists Union, World poultry science association, World Rabbit science association (WRSA Deutsche Gruppe e. v.), EkoConnect – International Centre for Organic Agriculture of Central and Eastern Europe, Society for decorating Lithuania.

79. The teachers employed in the Programme publicize the results of conducted research at the seminars in the Chamber of Agriculture, at the annual fairs organised at ASU university, at the

show of progeny livestock in Algirdiskės, the fair AgroBalt**,** Lithuanian Agricultural Advisory Service, etc; in periodical publications "Vetinfo", "Mano ūkis", "Valstietis", "Ūkininko patarėjas", and others. J. Tacas Centre for Milking Training arranges educational events. The Programme teachers together with Union of Lithuanian Zootechnicians organise annual competitions to select the most advanced animal husbandry farm, aiming to inform the public on advantages of advanced farming. Programme's researchers participated in a national science festival "Spacecraft Earth–2012".

80. Every year the most productive researchers and postgraduate students are encouraged by LUHS Science Foundation. By rector's order for 50 researchers additional payments are allotted[14]. In the year 2011–2013 two teachers working in the programme received the additional payments.
81. To ensure the internationality of the programme, participation in exchange programmes is promoted: teachers of higher education are invited from abroad, and the University teachers deliver lectures in foreign universities and to the foreign students coming to the University. Most frequently foreign researchers come to the University according to ERASMUS exchange programme – they read actual lectures, but do not have possibilities to deliver the whole study subject. The information regarding the lectures is publicised publicly; they are open for students of all study programmes and faculties. Within the discussed period, the lectures were read by visiting practitioner–teachers: Prof. Hab. Dr. J. Kamphues, head of Animal Nutrition Institute, Hanover Veterinary School for Higher Education, EAEVE (*European Association of Establishments for Veterinary Education)* member–expert (Germany); Prof. Hab. Dr. K. Lipinski, Warmia and Mazury university, Olsztyn faculty of Animal Bioengineering (Poland); Dr. K. Kliem, UFOP, Berlin (Germany); Prof. Dr. C. A. Barth, Potsdam university, (Germany); Prof. Dr. F. Schwarz, Munich technical university (Germany); Prof. Hab. Dr. Lefebvre "Royal Canin" (France). These teachers bring new ideas into the University and the programme as well, convey their experience to the students.
82. The Programme teachers participate in ERASMUS exchange programme. In such a way, teachers not only share their experience, but are looking for contacts to implement international projects and common research (Table 11).

Table 11. The number of teachers who went to foreign universities

Study year	No. of teachers	Institution (state)
2012–2013	4	Hanover school for higher veterinary education, Germany Natural Resources and Life Sciences Austria BOKU university, Austria Szent Istvan university, Budapest
2011–2012	3	Hanover school for higher veterinary education, Germany Slovak University of Agriculture in Nitra, Slovakia University of Warmia and Mazury in Olsztyn, Poland

83. The teachers of the study Programme are in close relationship with universities abroad: the University of Hohenheim (Germany); BOKU, University of Natural Resources and Life Sciences (Vienna, Austria);_Estonian University of Life Sciences; Slovak University of Agriculture in Nitra (Slovakia); University of Warmia and Mazury in Olsztyn (Poland); Belarusian State Agricultural Academy, and others.
84. Insufficient knowledge of foreign languages prevents teachers from more active participation in exchange programmes.

[14] LSMU Senato 2012 m. kovo 29 d. nutarimas Nr.19-10 „Dėl Lietuvos sveikatos mokslų universiteto darbuotojų darbo apmokėjimo tvarkos tvirtinimo"

85. All teachers employed in the Programme have equal opportunities to formally and informally improve pedagogic, scientific, and practical qualification. University teachers develop their competences guided by Regulations for the assurance of LUHS teachers educational competence‘ (LUHS Senate decree No 5–07, 21 January 2011). Consistent control of LUHS teachers' educational competence is performed by the LUHS Centre for Teachers Educational Competence[15]. During the period under discussion, the centre organized a cycle of seminars for teachers qualification improvement: "Systems and didactics of Higher Education", "Peculiarities of Teaching and Learning Paradigms in the context of the Bologna Declaration". Between 2011 and 2013 year, 20 teachers of the Programme improved their educational competence.

86. Pedagogical (professional) qualification was improved participating in long–term and short–term programmes for qualification enhancement, in the courses for professional knowledge and pedagogical skills in Lithuania and abroad (Table 12), independently studying science literature, preparing methodical materials (Annex 2), organising discussions, seminars, directly participating in events. The significant achievements – Prof. I. Miceikienė, is an expert of the study assessment centre.

87. Qualification in science was enhanced performing research in the areas of zootechnics, animal husbandry, animal genetics and breeding, animal nutrition and publicizing the results of the research; working as experts, evaluating scientific projects, reviewing dissertations, monographs, referring research papers, etc.

88. Practical qualification was improved performing training specialists of agricultural enterprises (or the ones related to agriculture), farmers, animal husbandry specialists; preparing methodical materials for seminars, courses, cooperating with the Chamber of Agriculture, State breeding Control Service under MARL, Lithuanian Union of zootechnitians, Lithuanian Agricultural Advisory Service, and others. Prof. V. Juozaitienė is a member of commissions for evaluation of pedigree bulls, evaluation of breeds acknowledgement, evaluation of animal exterior, a member of acknowledgement of animal breeding institutions, etc. Prof. I. Miceikienė is a member of GMO committee under the Lithuanian Environmental ministry. Assoc. prof. R. Budreckiene is an expert in Lithuania for EFSA (theme "Food additives and materials for animal nutrition"), prof. L. Šernienė is a technical expert of programme EUREKA (Brussels).

Table 12. Qualification improvement of the Programme teachers in 2011–2013 year

Study year	Number of events		
	Conferences	Qualification improvement programmes	Courses, seminars
2013–2014	26	–	31
2012–2013	60	5	49
2011–2012	61	7	52
Total	**147**	**12**	**132**

89. Executing the programme teachers and students use the assistance of personnel working at the dean's office, departments or institutes. The technical personnel/full–time teacher position ratio is 1:6.

90. Summing up, it's possible to state that teachers employed in the Programme are sufficiently experienced in practical, pedagogical, and research work, are awarded science degrees – the

[15] http://lsmuni.lt/media/dynamic/files/735/lsmu_destytoju_edukacines_kompetencijos_uztikrinimo_tvarka.pdf

themes of their research usually coincide with the theme of the subjects taught. The teachers' selection for positions at the university is conducted by means of competition ensuring the possibility to employ the best ones. The teachers number is sufficient to reach the programme's objectives; fluctuation is not great. Teachers' qualification is being improved consistently in a variety of ways, nevertheless, the foreign language skills of some teachers are not sufficient, and they are not active in participating at the conferences, exchange programmers abroad. In future it's necessary to improve teachers' foreign language skills, skills for international communication, to increase the number of teachers coming for academic exchange, to encourage the programme teachers to seek for degree in science.

5. FACILITIES AND LEARNING RESOURCES

91. The study programme is being executed in compliance with the general LUHS order for organizing studies, coordinating study venue and time with other programmes of the university. The LUHS possesses all main resources (lecture halls, laboratories, laboratory equipment, information technology, library) for successful execution of the programme. For the organization of the studies 7 lecture halls of different size (Table 13), a classroom for distance teaching, 48 training laboratories, and 32 classrooms are available. Groups of students for master study programme are small, therefore smaller class rooms adjusted for team work are used. The conditions for the programme students are adequate for independent work – reading room, computer classrooms are available. Students have to carry out a great number of independent work assignments at home/dormitory or at the library, because study rooms on week days are used on average 7–8 hours for teaching students of other study programmes as well. Study rooms meet the requirements for safety and hygiene standards. The premises are in good condition. In 2011–2012 implementing integrated science, study, and business centre (valley) "Nemunas"project in VA, the premises were renovated and facilities updated. For the project the sum of 30.3 mln. LTL was allocated.

Table 13. VA auditoriums and number of places in them

Auditorium	**Dr. Stasys Jankauskas**	**2**	**3**	**4**	**5**	**6**	**7**	**Žalčio hall**
Number of places	210	280	275	275	105	50	108	40

92. Teachers are provided with conditions for non contact work arranging their workplaces in staff rooms. Each room contains 2–4 workplaces for teachers providing them with PCs, printers and other necessary means.

93. Lecture halls are provided with computerized visualization equipment. The faculty contains three computer classes providing 112 workplaces for students. For studies modern legal software is used: Microsoft Office, SPSS, Hybrimin Futter, PEST.

94. The programme's students have access to the equipment of VA research laboratories, centres, vivarium. The list of laboratories provided with basic equipment used in the study process of the programme of Animal Resources Management is presented in Table 14.

95. In the PE LUHS Centre for Practical Training and Experimentation livestock are kept (260 cows and 256 cattle offspring). It is needed to conduct research and develop studies. The institution contains two training dairy farms of different animal keeping types: Giraitės farm – 110 cows; Muniškių farm – 140 cows. There are farms of two pedigree heifers and a fatening cattle farm.There are also cows of gene fund and a herd–collection of a variety cow breeds. In Giraitės training farm herd management system "ALPRO" is implemented.

Table 14. Equipment for study premises to teach the progeamme subjects

Laboratory	Equipment
For evaluation of animals' meat characteristics and meat quality	pH meter "Inolab 3",– to determine meat quality, "Minolta chromameter 410"– colour meter, automatic scales SM–3 – to determine dry substances, chromatographic system of high spectrophotometer, etc.
For investigation of animals' health	Biological, epidemiological analyses, and preventive examinations of diseases of zoonotic and economically important livestock and poultry are performed using amplificator to perform polimerase chain reaction, horizontal electrophoresis and gel documentation equipment, antphotometer for immunofermental analysis, spectrophotometer, II class bio–safety centrifuges, –20^{o}C and deep freezing freezers; thermostats for cell culture and virology analyses, luminescence and inverted microscopes, binocular stereo microscopes; equipment for helminthologic and coprologic analyses.
For evaluation of animal origin resources (carcass) quality	equipment for carcass quality evaluation (FOM, INTROSKOP) equipment for meat carving, video, multimedia, camera for taking pictures of carcass, minibus for transporting to meat plants, and etc.
For investigation of animal welfare	the reference material for teaching students, standards, immunofermentic analyses for determination of mycotoxins are accumulated. Students are trained to use ALMAMO–22993, air gass analyzer "Dräger", TSI thermal environmental analyzer, Gilian equipment (designated for investigation of dust dispersion), temperature accumulators–EBI–6 and others. In the laboratory a sterile room is designated for isolation of micromycetes; for identification of micromycetes a light microscopy is used. Modified chromatographic methods (Romer Labs, USA) are used to determine mycotoxins. A variety of Romer Labs equipment, as well as that produced by other companies ("Neogen") are used. In animal housing facilities, environmental evaluation is conducted, microclimatic indices are determined, conditions for animal handling and welfare are evaluated.
For poultry nutrition and poultry products	Equipment to evaluate quality of feeds, poultry meat and eggs using multifunctional eggs tester "EMT–5200"; egg shell firmness – with analyzer "Egg Shell Force Gauge Modell–II", fat– with Gerhardt system; fibre is analyzed with Fibrebag. Amounts of trace elements, tocopherol, etc. in the feeds, poultry meat, eggs are determined with high pressure liquid chromatography (HPLC) system, atomic absorption spectrometric (AAS) system; mass spectrometer.
Dr. K. Janusauskas laboratory for animal genetics	The newest equipment for molecular and cytogenetic investigation, e.g. 3 DNA amplificators, centrifuges, cooling centrifuge, vortexes, 3 horizontal electrophoresis apparatus for agaroze gel, ABI 310 capilar DNR analyzer, BioRad gels videodocumenting system, Biolar –70°C freezer, laminar, bio–safety cabinet, thermostats, etc.
For investigation of animal breeds' value and selection	students are taught to comprise animal breeds and herds' selection programmes; they investigate genealogical structure of dairy cattle breeds; students are trained to plan pairs' selection for obtaining animal breeds of high performance; to conduct animals' breed value determination applying BLUP methods, use PEST software, VCE programme.
For animal reproduction	*FACSCalibur* flow cytometer, microplate reader Elx800g s/n 18, microscopes of various purposes – trinocular with epi–fluorescence accessory Spectrum, Inverted, Fluorescence, Eclipse 50i NIK–MBA 8502M, water treatment dionization system Ultra Clear Basic Plus, PGR mixing preparation equipment, Horizontali Heliv electroforesis system Mschoice10, CO_2 and System Inubator F.Lli Gally, Diuaro dishes, Program SCA 2002 Lte Microptic Morfolog, assessment module SCA 2002, Progr. Module SCA DNA frag Microptic and othersare used for training students.

96. Students of the programme under assessment perform practice and carry out research in agricultural enterprises and in the institutions of agricultural infrastructure (private farms, agricultural companies and cooperatives, university division PE Centre for Practical Training and Experimentation, Institutions of Agroservice, enterprises of feed, food industry, public institutions). The agreement is signed by a student, university and organization where the student undergoes practice.

97. The university's methodical resources are coordinated by LUHS library and information centre. In the library and IC, 4 reading rooms containing 342 workplaces (86 computerized), 3 rooms for group learning, multimedia room containing 8 workplaces, computer training classroom (12 workplaces), seminar/conference hall are available for the users. Majority of the programme's students take advantage of LIC VA funds. In VA division, readers get service at the checkout, general and science reading rooms containing 86 workplaces (20+2 computerised; 45–with connection), wireless internet is installed. The library is opened on weekdays from 7.30 a.m. to 10.30 p.m., and on weekends from 10 a.m. to 8 p.m. The checkout and reading rooms of VA are open from 8 a.m. to 8 p.m., thus the readers have good possibilities to use the service of the library.

98. Funds of the University contain 648 thousand units (over 242 thousand titles) of printed documents. Approximately 67 printed publications are subscribed (nearly one third of them are published abroad), but teachers and students prefer using electronic scientific periodicals and other sources in national and international databases. The university subscribes to 47 databases[16]. Databases are subscribed through national project eMoDB.Lt.

99. Books and copies of scientific articles (in case they are not available at the university library) can be borrowed from Lithuanian National library, Lithuanian Technical Library and other libraries through the interlibrary loan directory.

100. The library is consistently enriched with new publications. In 2012 year, BIC VA division acquired new scientific publications of 812 titles (2197 units). Out of them – 168 publications and textbooks are of agricultural area, and 121 – animal husbandry area.

101. All the mentioned publications are available for the teachers and students directly through databases or using virtual library (LUHS virtual library[17]; Lithuanian virtual library[18]).

102. All databases are available for community members on the University computers (library, computer classrooms, dormitories, teachers' rooms, and elsewhere). To use subscribed databases not at the University premises, teachers and researchers can get connected through the University VPN. Students can also connec their own mobile computer to the University website.

103. Faculties, interior structural resources, teachers of subjects, and LIC department of publications' compiling and preserving cooperate ordering literature for research and studies. Information and advice concerning information search and resources is available on LIC website. Annual seminars on information search for teachers and students are held in the library; courses for teachers, researchers, and students on information search and distribution are arranged consistently.

104. The information about received publications and documents is available periodically: book fairs are arranged; lists of new books and their annotations are sent to the whole community by

[16] http://lsmuni.lt/lt/biblioteka/informacijos-istekliai/prenumeruojamos-duomenu-bazes/
[17] http://www.lvb.lt/primo_library/libweb/action/search.do?dscnt=1&dstmp=1386274425301&prefLang=lt_LT&vid=LSMU&fromLogin=true
[18] www.lvb.lt

LUHS forum; the information is on a library website. All methodical material is consistently on display in the stand of LIC VA division.

105. After having analysed the material resources provided for the programme, it's possible to acertain that the lecture halls used for the study programme are provided with computerized visualization equipment, information technics and technologies; the number of premises is sufficient. Teachers are provided with good conditions for non contact work in staff rooms. Within the period analysed, the library resources were supplemented with scientific and methodical literature; the access to virtual resources is made available. It's planned to renovate staff rooms, premises of general use,to renew recreational areas, to modernise VA division, because the premises of the library are not adjusted for open access of the library funds; to implement the project for self service and copying; to equip a room for a group work, implement self service for documents' checkout/return; to install wireless internet access (currently, it is available only at the library). There is lack of taught subjects' literature in foreign languages – the intensification of preparation and publication of methodical material is planned. The VA library facilities are not easily accessible to students with disability.

6. STUDY PROCESS AND STUDENTS' PERFORMANCE ASSESSMENT

106. To admit students prepared for the studies, the requirements for candidates are minimal – persons are eligible to participate in the competition eligible after completing the first cycle (bachelor) study of biomedicine science or other studies and having listened, passed examinations in chemistry, microbiology, ecology and environmental protection, basics of production of animal origin resources, economy subjects comprising not less than 10 credits.

107. The applicants are ranked and the competitive cumulative score is calculated following the "LUHS Rules for Students' Enrolment2013" given criteria an formulations. The rules are prepared every year and approved by the senate of the University. Detailed information regarding admission to the master study is available on the University website[19].

108. Information on the study programme and qualifications awarded are publicly available in AIKOS database[20], publications "Admission to Lithuanian institutions of higher education", "Career guide", "Ave Vita" (the university newspaper), promotional leaflets. The information is distributed in study fairs, shows, universities, social partners' organizations, university website, social websites. Persons interested in the master's study are consulted both individually and in groups; information is distributed at the seminars and conferences of professional organizations.

109. The number of applicants and entrants to the study Programme is presented in Table 13. Within the period analysed the number of candidates fluctuated inconsistently. The number of applicants and enroled students in the year 2012 decreased (64.3 %) compared to that of 2011; in the year 2013 there were no applicants to study in the programme.

Table 13. Information on enrolment to the programme

Year	Number of applicants	Number of admitted			Admission scores		
		*VFKM**	*VFES***	Total	Maximal	Minimal	Average
2013	–	–	–	–	–	–	–
2012	5	5	–	5	8.56	6.36	7.64
2011	14	–	14	14	8.98	5.89	7.61

**VFKM* – state funded second cycle students (admitted since 2009 year.);
***VFES* – state funded second and third (doctoral) cycle students , their studies partially funded by EU structural foundations

[19] http://lsmuni.lt/lt/stojantiesiems/priemimo-taisykles/
[20] http://www.aikos.smm.lt/programos.htm?m=program&a=displayItem&id=621D91001

110. Analysing the distribution of competitive score for 2011–2012 year enrolled students, a slender increase of average is observed (0.03 score). The difference between the maximal and minimal points tended to decrease.

111. Students get acquainted with the study process during the enrolment. Detailed information regarding admission to the master study is available on the University SIS and intranet (installed 01 October 2012). The study year consists of 2 semesters – autumn and spring. The duration of a semester is 20 weeks. At the beginning of each semester students have to register to the study. The study order is regulated by the Programme plan and study schedule. The study plans for the other study year are prepared and approved by the senate up to 01 November of the current academic year. The programme schedule is made for the whole semester and undergoes no changes after the semester starts. The timetable is available on internet, intranet; it is displayed on the faculty notice board.

112. Students' knowledge and abilities are evaluated during the subject/module study and after completing it meeting the LUHS Senate approved regulation regarding students' achievement evaluation, which determines the principles for arranging achievement evaluation, order for execution, and management of evaluation quality.

113. Having completed a study subject, during the examination session, the subject examination is taken and the evaluation is given on the date defined in the schedule. The schedule is made by Study Centre coordinating the time with monitors of student groups and teachers. The schedule shows the date (year, month, day, hour, venue–classroom). The examinations' dates are set within the whole session period having at least two days between the examinations. The same subject examination can be taken only once within a session. The students' work load during a session is appropriate. At the end of a session one week is allotted for liquidation of failures; at the end of August, one weak is for liquidation of academic year failures. The studies have to be repeated in case the examination of a subject/module was failed three times, a failure was not liquidated within repeated studies.

114. In the first semester students choose the research field and having prepared the literature analysis and discussed with the supervisor formulate the theme of the final thesis. The student performs research and practice on the chosen theme. The results of the research and practice are submitted up to the deadline foreseen in the schedule.

115. The faculty's dean is responsible accumulation and control of the evaluation results data. The data is saved in computer data bases; the initial data (examination registers)–in paper forms.

116. The evaluation of students' competence during the defense of the final thesis completes the study programme. After a positive supervisor's, conclusion the prepared master's thesis is referred by a teacher appointed by the dean. On dean's recommendation the student can defend the thesis getting the rector's permission. The thesis is defended at the Commission for evaluation of final thesis and examination appointed by the University rector. The Commission performs final evaluation of the work, skills of the research and knowledge of the master student.

117. Every year, the results of students' final work are discussed at the Faculty Council analyzing the reports of Commissions' chairpersons. The Commissions' meetings are open, and teachers executing the programmers participate in them.

118. Factors of dishonesty are not tolerated. At the university, both administration and students representation propagate and follow the principle of academic honesty that is defined in chapter XI of the Study Regulation and in the Regulation of assessment for students' achievements. Since the year 2013–2014 students sign a form of WOWS before starting the study, whereas senior students – before every examination. Having prepared a master thesis, every master

student has to sign the declaration of honesty regarding the authenticity of the work. Due to dishonest behavior at the moment of evaluation, at the deans mediation, the studies of the student are terminated by the order of the rector.

119. By the decision of the Senate, system of plagiarism was planned to be implemented by 2012year. Currently, the university together with other institutions of higher education are still working on the project, so it's not working yet.

120. In 2012–2013 year the programme was successfully completed by 11 graduates, i.e. 78.6 percent out of enrolled students (Table 14).

Table 14. The number of students enrolled to the programme, and the number of students who completed it

Study year	The number of admitted students	The number of students having completed the programme
2012–2013	14	11
Total	**14**	**11**

121. The students withdrawal from studies is constantly observed and the causes analyzed. Within the assessment period one of the main factors causing 'dropout' – not returning after academic holiday. Other causes of dropout are private matters; one student was excluded due to plagiarism of final thesis.

122. Students are encouraged to participate in Student Scientific Society activity. There are various events in the university providing possibilitie for students to improve knowledge in planning and conducting research; students are encouraged to publicize their achievements. For that purpose every year, Student Scientific Society conference is held in the university and publication of students' research work is released. Nevertheless students activity in applicable research is low. Aiming to involve students into this activity, it's being planned to require every master student to have at least one publication.

123. Advanced students have an opportunity to participate in student exchange programmes and leave for partial studies (3–12 months) abroad complying to ERASMUS programme. Mobility purposes: to provide students with a possibility to deepen knowledge and skills, to widen world outlook, and learn about study conditions in other universities. In the period of 2011– 2013 year the programme students didn't leave for ERASMUS exchange programme. That was caused by the following subjective reasons: employed students can't leave their work places; not sufficient knowledge of foreign languages; lack of confidence, etc.

124. The information regarding goals, tasks of the taught subject, and evaluation of achievements are given consistently in a variety of forms available for students: on the LUHS website, intranet, in subject descriptions on LUHS website, which are consistently updated, the notice stand of the faculty. Study programmers and subject descriptions are on the University website. The promotional means are available for all students.

125. During a semester every teacher gives consultations concerning subject issues to students individually coordinating the time. Students are consulted while preparing written assignments, other individual tasks, and before examinations. Consultations are given at the staff rooms, by internet, phone, using intranet.

126. The information on possibilities to study abroad is given by Centre of International affairs and Studies. The personnel of the centre arrange the check of foreign language knowledge, help to choose the university, comprise the programme for partial studies, to solve accommodation and other issues, maintain contacts with the students who went to study abroad. Faculty

administration and teachers consult students on an individual basis concerning possibilities to study abroad.

127. Since 2006 the Career Centre has been opened at the university. The centre consistently provides students and groups with information on career possibilities. The information on career possibilities is available on internet website and at the Career centre. The Career centre arranges additional volunteer practice for students in order to provide better conditions for formation of practical skills, self – confidence thus, facilitating employment. The centre also organises 'Career days' providing a possibility to communicate directly with employers, to ask them relevant questions, exchange contacts, to get necessary information concerning recruitment; facilitate preparation for the interview with a possible employer. The centre mediates in recruitment issues both for employers and students. In the databases of the centre, employers can announce about the available job vacancies, whereas students – about their search for practice and jobs[21]. One of the centre's functions – monitoring of students' career using information system for career monitoring.

128. The LUHS regulation foresees possibility to study on individual basis, according to an individual programme. In compliance with 77 issue (chapter VI, 'Study process) of the regulation for first and second cycle studies the dean gives permission (having received a student's motivated application; then the time table is coordinated with the department/institute. During the period of evaluation, 4 programme students studied according the individual time table. The usual reasons were child care or health problems.

129. To ensure more favourable social conditions students are allocated grants for special achievements in studies, reaserch etc. The order for allocating student grants and support is determined by the approved documents (Senate, LUHS) [22]. Encouraging grants are administered by the decision of the university commission for allocating grants. The commission consists of a representative from each faculty, a representative of service for economy and planning, and a representative of study centre. Encouraging grants are allocated to students who achieved best studying results. For one–time encouraging grants 4.5 percent of grant foundation is designated. Special personal grants are allocated for well studying, active in community life students (MARL minister K. Starkevičius, Lithuanian Social Democrats party, mayor of Kaunas region, Ltd. Magnum Veterinarija.

130. The university presents financial support to disabled students. The personnel of the dean's office help students to prepare necessary documents to get study loans and social grants.

131. Social support comprises a possible psychological support that is organized by a LUHS psychologist and assisting volunteers. There are societies, groups ("Gaja" "Sielovada") organizing activities and inviting representatives of catholic church to take part in the discussions.

132. Students, alike all citizens of RL, have a right to choose a medical institution and get free medical service. In case of necessity students can get an academic leave on the basis of illness.

133. All students can stay in the university dormitories. Dormitory accommodation is allotted according to the LUHS provisions regarding dormitories for students. There are 9 dormitories at the university (MA – 5; VA– 4, where 1674 students studying at various programmes can be accommodated); currently, 1535 students stay in them. Internet access is available in all dormitories.

[21] http://www.karjera.lsmuni.lt/darbo-skelbimai; http://www.karjera.lsmuni.lt/map?msg=gyvulininkyste

[22] http://lsmuni.lt/media/dynamic/files/287/pirmosios_antrosios_pakopu_ir_vientisuju_studiju_studentu_skatinamuju_stipendiju_skyrimo_nuostatai.pdf

134. Students can participate in the university amateur groups such as: VA chorus "Juventus", folk dance group "Dzigunas", MA chorus "Neris", MA folk dance ensemble "Ave Vita". At the university, the activity of amateur groups is coordinated by culture centre[23]. Students can become correspondents of "MES" (supplement to weekly "Ave Vita").

135. The university sport base is available for students; there, students go in for aerobics, swimming, basketball, volleyball, football, table tennis, badminton, chess, weight lifting, etc.[24]

136. Following the order of the minister of MES RL "Regarding the approval of evaluation system for outcomes of the study programme", the student's achievements are evaluated in a 10–score system; the students' achievement evaluation is directly linked to the study outcomes, the principles for the evaluation are determined by LUHS regulation of the studies of the first, second level, and integrated studies[25]. The methods for evaluation of students' achievement are defined in the regulation for evaluation of student achievement[26].The structure of evaluation is presented in the description of every subject.

137. An examination is given either in written form or orally, depending on the specificity of the subject/module; the examination form is presented in the subject description. The structure of the examination is publicly available, not later than 5 days after the examination. Students have the right to get reasoning of his/her achievement evaluation, and the mistakes should be explained in case the student is interested in that. If a student disagrees with the resolution on assessment of any subject of studies passed by the department, he/she has the right to appeal to the Dean. The information on the final evaluation of the subject is on computer data base.

138. The study of the Programme is completed with master's final thesis. Its evaluation score is calculated as arithmetic average of evaluations given by every commission member and reviewer. The commission members evaluate the thesis on the basis of criteria given in the description of the subject (Annex 4); the criteria includes relevance of thesis' theme and issues under investigation, completion, organization, and specification of the thesis; students ability to consistently reveal the thesis outcomes; particularity of the answers to the commission members' questions; student's behavior, the quality of thesis' design and presentation. The criteria for the evaluation of final thesis are detailed and relevant for objective evaluation of students' achievements.

139. Within 2012 – 2013 year 11 thesis were defended (Annex 4). The average evaluation of the thesis – 8.5 score. Majority of thesis (90.9 %) were quided by the Programme teachers holding doctor's degree.

140. The faculty performs the monitoring of graduates employment. According to the data of labour exchange, one programme graduate got registered in Kaunas labour exchange in 2013. According to the questionnaire data, 6 month post graduation 45 percent of respondents were employed; 2 of respondents didn't find a job (Table 15). All respondents were employed in Lithuania.

141. LUHS on a partner basis, cooperating with other Lithuanian institutions of higher education, is executing project "Preparation and implementation of formalization system of competences acquired in informal way in the context of cooperation between schools of higher education". Having completed the project, the university will continue evaluation and recognition of

[23] http://lsmuni.lt/lt/struktura/neakademiniai-padaliniai/kulturos-centras/

[24] http://lsmuni.lt/lt/struktura/medicinos-akademija/slaugos-fakultetas/sporto-institutas/

[25] Patvirtintas LSMU Senato 2013-06-07 nutarimu Nr. 32-03

[26] Patvirtintas LSMU Senato 2012 -12-14 nutarimu Nr. 25-07

competences acquired in informal way, which will facilitate the development of collaboration with various social partners, influencing quality improvement and encouragement[27].

Table 15. Data on graduates' employment

Indications		2012/2013
Number of graduates		11
Number of respondents / %		7/64
Occupation in the time of questionaire, number / %	Work	5/45
	Child care	–
	Didn't find a job	2/18
The work is:	Work directly related to the acquired profession,number / %	3/27
	Work indirectly related to the acquired profession,number / %	2/18

142. Summing up, it is possible to state that the requirements for applicants to the study are reasonable. However, the decreasing number of the programme students' arises concern. The decrease was predisposed by the drop in the number of Animal Husbandry Technology first cycle graduates, students' activity in labour exchange, a low number of state–funded places in the field of agricultural sciences. Graduates get recruited to the places related to the objectives of the programme studied. It is reasonable to implement distant learning to provide conditions for employed full–time students. Students have possibilities to participate in exchange programmes, however, they are not active in them. Students are too little involved into research projects conducted by the programme teachers. To liquidate these shortcomings teachers should have closer communication with students on individual basis, to specify advantages of international studies, to foresee ways for financial encouragement.

7. PROGRAMME MANAGEMENT

143. Faculty Council takes decisions on management of the Programme. In the cases when the community opinion is required (on particularly important issues), the meeting of Faculty teachers and researchers or the meeting of the whole academic community is called.

144. The Programme is being executed in LUHS academic division – Animal Husbandry Faculty. The dean of the faculty administers the study. The employees of the dean's office plan, organise, and control the study process, timely submittal of registers containing students achievements, conduct comparing of study results, prepare documentation of completing the studies, organise the activity of study committees, control study payments, together with students representatives perform control of foundation for encouragement grants. The distributed work is defined in the work contract of employees.

145. The order of preparation, improvement, and administration is regulated by the Law of Science and Study of the Republic of Lithuania, the order of the minister of Education and Science of the Republic of Lithuania 'Regarding the approval of the description of general requirements for master's studies', 'Regarding the approval of the description forms for full–time and continuous studies', the university statute, plan for the strategic development, the regulation of the studies of the first and second cycle and integral studies at the Lithuanian University of Health Sciences, LUHS provisions ensuring study quality[28], in the LUHS order for

[27] Senato 2013-09-27 nutarimu Nr. 36-09 patvirtinta LSMU neformaliojo suaugusiųjų švietimo sistemoje įgytų kompetencijų vertinimo ir pripažinimo tvarka

[28] http://lsmuni.lt/media/dynamic/files/281/studiju_kokybes_uztikrinimo_lsmu_nuostatos.pdf

programmes'creation, improvement, and management[29], provisions of the faculty[30] (up to 2013 – provisions of Animal Husbandry Technology Faculty [31]), also the documents prepared and approved in the compliance with the order determined by the university[32].

146. The control and coordination of the programme are performed by the Committee for study programmes of Animal Husbandry, Animal Resources Management approved by the rector on recommendation of the dean. The committee has started activity since February, 2013 (before February 2013, faculty dean Prof. Dr. P. Matusevicius was responsible for the control). The Committee consists of not less than three members teaching in the programme and conducting research in zootechnics, animal husbandry, animal genetics and breeding, animal nutrition field, and representatives of students and social partners. The Committee can invite experts from other divisions and institutions to work in it. Composition of the Committee shall be reviewed and changed to ensure members' competence to carry out monitoring of the programme and to make suggestions for its improvement. Renewal of the Committee membership is initiated by the dean and validated by rector's order.

147. Currently, Assoc. Prof. Dr. S. Tušas is the chairman of the Committee. Members of the Committee are the doctors of sciences teaching in the programme and conducting research: Prof. dr. Arūnas Juozaitis, Prof. Dr. Almantas Šimkus, dr. Evaldas Šlyžius, dr. Lina Ašmenskaitė, Prof. dr. Bronius Bakutis, dr. Natalija Makštutienė. At the Committee, students are represented by Jurgis Bukauskas (a full– time student of Animal Husbandry Technology programme FAHT LUHS); social partners – by the chief of Animal Husbandry department Daiva Gurauskiene (Lithuanian Agricultural Advisory Service).

148. The Committe decissions are made collegially. Chairman of the Committee organizes members' activities. Members working together in groups, analyze programme performance, develop projects to improve the programme, analyze the course descriptions, etc. Documents are submitted for evaluation to other members. Later they are discussed, corrected, and approved at the committee meeting by a majority votes.

149. The Committee cooperates with the members of community, faculty Council, its Commission for Studies and Science, Study Centre and Commission for Study Quality Assurance and Monitoring, Career Centre, Students Representation. The Committee organizes revision of the study programme achievements, the list of subjects necessary to form the competences, descriptions of the subjects and detailed revision of description content

150. The faculty Council debate the Committee's decisions regarding the programme plan. The faculty Council discuss the implementation of the programme, consider reports of commissions for final thesis evaluation, analyze results of admission to the programme, approve documents regulating the organization of studies, submit proposals to improve Committee's activity. The Committee's recommendations, proposals regarding the improvement of the study process quality are debated at the commissions for study and science of the faculty and at the Council, and after their approval, the proposals are approved at the University's rectorate and Senate complying to the established order.

151. An internal system for assurance of study quality is implemented in LUHS. The system is based on European standards and guidelines for quality assurance in higher education (ESG), the main principles of EFQM Excellence Model and on the quality improvement strategy

[29] http://lsmuni.lt/media/dynamic/files/994/1-6.pdf
[30] http://www.lsmusa.lt/wp-content/uploads/2013/07/lsmu_fakulteto_tarybos_reglamentas.pdf
[31] LVA Senato nutarimas 2007 m. vasario 13 d., Protokolo Nr. 050205
[32] http://lsmuni.lt/lt/veikla/studijos/studiju-kokybe/

adopted by the university and foresees ways and means facilitating the assurance of high quality.

152. Recently a lot has been done to strengthen management of study quality. In 2012, the commission for monitoring and assurance of study quality was created, Senate approved provisions for assurance of study quality in the university; the order for LUHS study programmes creation, management and improving; the order to investigate the opinion of students, teachers, social partners. In 2013 the order for arranging graduates and social partners' questionnaires. The order for administration of study programmes' execution and order for qualitative assessment are also discussed. Furthermore, the documents help the teachers to discover the issues to be improved, encourage collaboration. In the period of 2012–2013 year, questionaires of employers and teachers were initiated.

153. The implementation and assessment of the programme are carried out periodically:
    - Study programmes are reviewed and refined annually approving study plans for the next year. In spring of every academic year, the Committee generalizes proposals and remarks presented in the faculty report, at the meetings of teachers and students, faculty Council meetings, given by employers, students, teachers in questionnaires. The Committee analyses the information on the popularity of the study programme among the applicants, employment of graduates , the newest science tendencies related to the study programme. The problems for implementation of the study Programme and needs for its improvement are evaluated, the proposals for its improvement as well as proposals to update subjects' descriptions, teaching methods, literature to be used are submitted by the Committee to the departments/institute. In case the proposals are related to the study process improvement, they are submitted to the dean. Proposals on the modification of scope or consistency of taught subjects are submitted by the Committee to the faculty Council, which debates them and makes final decisions. Proposals on including new subjects to the study programme or withdrawal from the programme are submitted to the faculty Council by the Committee. Under the approval of the Council, the modifications are recommended to the rectorate and Senate.
    - Not rarer than once per three years, systemic assessment of study programme and self–assessment pursuant to the methodology of CQAHE or other analogical agencies.
    - In case of exclusive need, for example, MES RL minister having changed the general requirements for study programmers or special requirements on the description of study field.
    - Every year analysis and assessment of study quality on the basis of teachers and students' opinion are organized. Not rarer than once within two years employers and/or graduates' opinion on study quality is analysed and assessed.

154. Electronic study information system (SIS) is used for programme‘s analysis and assessment. The following information facilitating management of study quality is accumulated: (1) database of students' admission. There is statistical data (according to study programmes) on the number of applicants, admission competitions, applicants geographic location, etc.; (2) computerized database for students mobility containing statistical data on study forms, students transfer to a higher year (stage) of studies, repetition of course , withdrawal (or expulsion) from studies, academic leave; (3) database for evaluation of students' knowledge. It comprises individual achievement data of all students and assessment of students' advancement; (4) data of social partners' questioning; (5) database of graduates' employment monitoring, containing data collected six months post graduation; (6) database of graduates' contacts; (7) electronic database of subject description; (8) electronic database of master's thesis and dissertations (ETD).

155. Social partners greatly contribute to the programme quality improvement. Students' representatives are members of faculty council, commission for admission and attestation of the staff, committee; employers' representatives are members of faculty council, committee. Students make proposals analyzing subjects relevance, organization of study process, consistency of the programme, etc. Students initiate meetings with administration and teachers to debate issues of study quality.

156. Automated questioning system is implemented in the university information system. Every year, LUHS commission for monitoring and assurance of study quality determines students' study quality assessment forms and content complying with the order[33] approved by Senate. These forms assure feedback – information is presented to the Committee, faculty dean's office, department of international relations and studies, centres of postgraduate studies and science and the university students' representation, rectorate. Structure of the programme and its implementation quality are being improved.

157. Graduates' questioning by e–mail is performed 6 months after completing the studies. In 2013 the questioning of graduates (2012–2013 year) concerning their employment was carried out. The results showed nearly one third of graduates' to be engaged into the activities compatible with the programme they had completed.

158. Not rarer than once per semester a meeting of the committee and students' representatives is organized to discuss study quality issues. Once per year faculty teachers and students meet for a discussion summarizing issues of study quality.

159. Meetings with groups of subject teachers are organized in the faculty. Problems related to the programme implementation are discussed at the meetings of departments/institute; detailed information on the measures taken to improve study quality is presented; teachers are involved in the activity for improvement.

160. In 2013 a questionnaire on teachers' opinion regarding the programme implementation was performed. Only 31.1 percent of teachers stated students' preparation to study the subject they taught to be sufficient; whereas 51.7 percent of respondents stated the knowledge of previous studies was more sufficient than insufficient.

161. The results of the questionnaire demonstrated 79.3 percent of teachers to participate in updating and improvement of their taught themes; 51.7 percent – to participate in the Programme's improvement of the subject they teach; 24.1 percent – to participate in the improvement of the study programme (improvement of study outcomes, compatibility of modules, etc.).

162. Although teachers' competence is sufficient, more attention should be paid to the issues of teachers' continuing education and qualification enhancement. The wish to consistently improve their educational competences was expressed by 41.4 percent of the programme teachers. Majority (89.7%) of teachers improve their educational competences on an individual basis; 55.2 percent – participate in the courses for educational competences organized by the university; 58.6 percent – in events (seminars, courses, programmes) outside the university.

163. Career Centre of the University cumulates and publicizes information concerning the demand in the labour market. The systemic information system of the university comprises both employers and graduates. Every year, 'Career days' (providing an opportunity for teachers administration, students and employers to meet together) are organized.

[33] http://lsmuni.lt/media/dynamic/files/368/studentu_destytoju_ir_darbdaviu_nuomones_tyrimo_tvarka.pdf

164. On the initiative of the committee, meetings–discussions with students, teachers, and employers are organized. Graduates present remarks and proposals. Close relationship is held with PE Centre for Agricultural Information and Rural Business, State Animal Breeding Supervision Service under MARL, Chamber of Agriculture, Lithuanian Agricultural Advisory Service. The programme teachers participate in the events of the mentioned institutions, arrange seminars, prepare projects, prepare and implement consultative projects in partnership. Social partners evaluate and give recommendations regarding the competences to be developed for the programme graduates.

165. All the information on quality assessment is publicly available – discussed with students at the meetings of departments/institutions, at the faculty council, in the Committee of the Programme, at the community meetings. The information on study quality and ways to improve it are presented on LUHS internet in the rector's annual report. The information is consistently given to employers (PE Lithuanian Agricultural Advisory Service, PE Centre for Agricultural Information and Rural Business, etc.) during "Career days", professional meetings, at events organized in the university.

166. Generalising, it is possible to state that LUHS has a system of study programmes that are described and under implementation and management of internal quality. The responsibility for the programme management is clearly distributed between the committee, FAHT council, dean's office, and LUHS senate. The information on the programme implementation is accumulated in LUHS databases. Teachers, students, graduates, employers are involved in the improvement of the study programme. The implemented SIS is not completely adjusted to the programme management (much time is wasted for preparation of descriptions, their updating). For further improvement of the study Programme's management, its structure, list of taught subjects, outcomes of the study programme formed by the subjects, interaction and consistency should be reviewed. It is needed to improve promotion expedition of the information obtained in the process of the programme's management; to wider use information accumulated in LUHS databases in order to inform society regarding the study programme, its significance in labour market; to encourage teachers not to limit their activity to improvement of their subjects teaching, but to be more active in the process of the programme improvement. Moreover, it is necessary to evaluate possible decrease in students' number – the formation of small groups is not only non – profitable, but the quality assurance of the study process becomes more complicated.