Latvia University of Life Sciences and Technologies

Faculty of Veterinary Medicine
Latvia University of Life Sciences and Technologies

Revisitation Self Evaluation Report for the European Association of Establishments for Veterinary Education
Revisitation 15-16 October 2019

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ESEVT Visitation to Faculty of Veterinary Medicine Latvia University of Life Sciences and Technologies

Visitation Team:

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ESEVT COORDINATOR
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Timetable

Tues. 15/10/19:
By 16.30: arrival of the Visitors (the Team) at the hotel
17.00-19.00: team meeting alone in the lobby of the hotel
19.00-21.30: working dinner with the Establishment's Head and Liaison Officer in the hotel or nearby

Wed. 16/10/19
08.30: transfer to the Establishment Team room
09.00–12.00: for the Major Deficiency, visit of the relevant facilities, consultation of the relevant databases and meeting with the relevant people
12.00-13.00: informal lunch with Team alone
13.00-15.00: evaluation if the Minor Deficiencies have been corrected or if an ongoing process to correct them is in place.
15.30-17.30: Team work in the Team room
18.00: exit presentation to the Establishment's Head, Liaison Officer and representatives of staff and students
19.00-21.30: informal dinner

Introduction

Brief summary of conclusions from previous Visitation and commitment from Establishment to correct Deficiencies and become fully compliant with ESEVT Standards

The previous full visit took place on the 7th to the 11th of November, 2016. The team identified several areas worthy of praise (i.e. Commendations), e.g.:

1. An improved financial situation.
2. Excellent clinical facilities within the new veterinary hospital.
3. The university has dedicated, enthusiastic and open-minded staff, from professors to support staff.
4. The same proved true for students who are well appreciated within the university as excellent students.
5. A very good and university owned teaching facility for production animals (Vecauce).
6. Pedagogical training for new staff and regular assessment protocols for staff

The Visitation team also identified several items of partial compliance or recommendations (i.e. Minor Deficiencies):

1. Lack of competitive salaries could mean a loss of key staff, especially in the clinical area.
2. There is a need to increase the direct involvement of 6th year students in clinical work throughout the 6th year, although it is noted that other years are also involved with clinical cases.
3. The lack of a sufficiently developed residency program.
4. Paid time free of teaching and clinical duties is needed for PhD students in order to allow them to concentrate on the and research projects.
5. Improve communication and feedback from students, especially the web-based course evaluation tool.
6. Improve English teaching in a view of the admission of an increasing number of foreign students.

The VISITATION REPORT (Draft C and D, 2016) did not identify any non-compliance (i.e. Major Deficiency).

ECOVE final decision (May 17th, 2017)
The Committee concluded that the following Major Deficiency had been identified:

-) Insufficient hands-on clinical training, especially in horses

The Faculty of Veterinary Medicine of the Latvia University of Agriculture is classified after Stage 1 Evaluation as holding status of: CONDITIONAL APPROVAL.

Since then the ECOVE final decision VMF has been fully committed to the correction of all deficiencies pointed out by the commission. Once the Establishment received the final visitation report, the document was disseminated to all members of the VMF and responsible persons in LLU. It was also presented to the Ministry of Agriculture of the Republic of Latvia.
An action plan was approved by the Faculty Board on October 18, 2017. The EAEVE Re-visitation Team was formed and started to work on the EAEVE Final Report in order to analyse and address Major Deficiency and also Minor Deficiencies and Suggestions in Order to improve situation in VMF. Among these improvements, a significant increase in hands-on clinical training has been introduced in the core currencies within a short period of time. The VMF also acknowledges the counselling and helpful advice from the EAEVE to solve all the questions and queries.

1. Correction of Major Deficiency

Major Deficiency: Insufficient hands-on clinical training, especially in horses

1.1. Factual information

Student clinical training is organized as:

- · practical classes of study courses;
- · individual work (on duty);
- · practices.

Description of practical training:

In order to have "Hands-on Training", the first skills and abilities in feeding, grooming and interacting with different animal species (including horses) students start to acquire during the 1st and 2nd year in some preclinical study courses (e.g. Biology, Ecology, Ethology I and II, Feed Production and Animal Nutrition, Anatomy, Physiology, Animal Hygiene) under the guidance of lecturers, as well as during individual training under the supervision of the LLU Veterinary Medicine Faculty (VMF) Veterinary Clinic (VK) and its stationary staff.

There is a significant improvement in the programs of four study courses of 1st and 2nd year where there is specified the minimum number of hours to work in the stationary of the VK of VMF- in total 100 hours. During the study course "Animal Biology, Ecology and Ethology" I (in the 1st semester, Biol1019) and II (2nd semester, Biol1020) 20 hours in each semester respectively; and in study course "Physiology" I (in the 3rd semester, Vete6022) and II (4th semester, Vete6021) 30 hours per semester. The individual work done at the VMF in-patient unit is recorded individually for each student, especially on a special sheet.

At the end of the 4th semester, the 2nd year students have their practical training in the first external practice "Physiology, Ethology and Welfare" (VeteP016). Under the guidance of a veterinary practitioner, students become familiar with the organization of veterinary work and develop practical skills in dealing with animals. During this Practice students learn to determine the basic physiological parameters of the animals of different species, study the influence of various welfare and physiological factors on the organism, analyse the behaviour of animals. One of the tasks of the Practice is to evaluate the welfare level of the animals. In order to improve the ability to assess well-being of animals and to improve students' practical skills in dealing directly with farm animals and horses, as well as with pet animals a mandatory practice at in-patient facility was included as a requirement in Practice program for students.
This Practice lasts two weeks and gives excellent opportunity for each student to apply and deepen the knowledge, primer skills and competencies acquired during the lectures and practical classes in study courses such as "Physiology", "Ethology", "Animal Husbandry" (e.g. horse-, pig-, cow-, sheep-breeding etc.). At the end of the

Practice, students submit to the supervisor at the faculty a Practice diary and a report, describing and analysing what has been learned and seen during the Practice (animal species, number of animals, personal observations and manipulations performed etc.). Practice diary has to be certified by the veterinarian-practice supervisor. From the records made in the student diaries, we can see what species of animals the students have worked with (see Table 1.1).

Table 1.1.

	2nd year external practice "Physiology, Ethology and Welfare" timing (n - number of students)		
	15 - 28 May 2017 (n = 51)	7-20 05 May 2018 (n = 44)	13 - 24 May 2019 (n = 24)
Animal species	**Number of animals**		
Cows	839	1562	798
Pigs	616	1594	61
Sheep	1582	212	1848
Goats	14	19	4
Horses and ponies	**154**	**295**	**116**
Dogs	667	827	464
Cats	490	593	344
Different species of birds	12	23	52
Other species	52	66	61
In total	**4426**	**5191**	**3748**

The decrease in the total number of animals in practice in 2019 can be explained by the fact that in 2019 a significantly smaller number of people were sent to practice - only 24 students duet to the high drop off in this year.

Major Changes for 1st and 2nd Year "Hands on Training"**:**

1. In the programs of the respective study courses strictly defined the number of practical training hours each semester at the VMF Stationary.
2. To improve the in-practice place's relevance to the assignments and to increase the chances of students gaining hands-on experience with farm animals and horses, the practical training program requires a 24-hour inpatient to perform a welfare assessment task at a clinic.

During the first year there is a week-long practice in the teaching and research farm of LLU "Vecauce". In this practice students are accompanied by teaching staff and farm workers, they learn about the basic principles of agriculture, stockbreeding and the organization of work in a dairy farm.

In the third year clinical subjects start

The main changes to improve and increase the "hands on training" for individual students in clinical subjects are the organization of hands-on work in smaller groups of 5-6 students (LLU Senate's decision) starting from the academic year 2017/2018. Practical work in small groups is conducted for the following subjects.

The 3rd year -

Anaesthesiology and emergency care
Clinical and laboratory diagnostics I
Clinical and laboratory diagnostics II
Operative surgery and topographic anatomy I
Operative surgery and topographic anatomy II

The 4th year

Internal diseases, herd health II
Reproduction of livestock I
Small Animal Surgery I
Small animal surgery II
Veterinary stomatology

The 5th study year

Internal diseases, herd health III
Reproduction of livestock II
Large Animal Surgery I
Large Animal Surgery II
Ophthalmology

During the study course "Clinical and Laboratory Diagnostics" (during the fifth and sixth semesters) students are given individual work at LLU Veterinary Clinic (LLU VK) - small animal and horse clinic. Student on-duty hours are on weekdays and Saturdays from 7.00 am to 4 p.m. The aim of the individual work is to acquire practical skills in contact with small animals and horses, as well as to acquire practical skills in clinical diagnostics of animals. Students participate in outpatient examinations and assist the veterinarian, observe the obtaining of anamnesis and clinical examination. Students have to learn general clinical examination methods;

must carry out clinical investigation of the patients placed in the VK (small animals, horses) as well as have to take part in the daily work with the clinic patients, to participate in other manipulations and examinations, depending on the individual patient. For example, assist with ultrasound examination. Students present the results of clinical examinations of all animals placed in the stationary of the VK to the clinic staff in the morning meetings. In addition, students also visit a laboratory where students become acquainted with the laboratory testing of various specimens. Besides clinical examinations of animals' third year students perform injections, put intravenous catheters, as well as prepare patients for surgery – do intubation, dose calculation, etc.

Key changes for the 3rd year on-duty in VK.

1. Significantly has increased the time spent with riding horses. Students have to perform a clinical examination of all stationary horses and under the supervision of a veterinarian to do simple manipulations - fixation, wound care, injections etc.
2. Improved the training in a VK laboratory. Students carry out examination of different samples in supervision of laboratory personnel.
3. As the number of inpatient patients in the Small Animal Clinic has increased, the number of clinical cases that a third-year student can see for clinical examination has increased.
4. Clinical training has been improved. Students are doing injections, intubate, prepare animals for surgery, and calculate medication doses.
5. At the end of the third-year on-duty, each student has to conduct personally a full clinical examination of at least of one animal (starting with the collection of anamnesis and finishing with a diagnosis) and prepare a description of the results.

The fourth year training

In the fourth year additionally to practical classes of study courses, the following study practices are provided -

1. Clinical Practice I
2. Large Animal Practice I
3. Large Animal Practice II

Clinical Practice I (40 hours in 7th semester).
This practice is organized as part of the learning process according to the schedule and takes place at the "Līgotnes" dairy cow holding of the "Vecauce" training and research farm, which has approximately 930 Holstein cows. The practice is leaded and supervised by a veterinarian working on the farm, who is also a VMF lecturer. During this practice students learn the organization of veterinary work on the farm, communication with farm workers, registration of the animal, collection of the anamnesis, general clinical and if necessary special examination, collection of various samples (blood samples, milk samples, pathological material), diagnostics, treatment. Students themselves calculate doses of medication and administer medication (as subcutaneous, intramuscular or intravenous injection, infusion). They develop the

skills of keeping, feeding, caring of sick animals and prevention of diseases. During this practice each student chooses one clinical case, which is studies in deep and later presented, discussed and defended in front of the lecturer and other students.

Key Changes of the Clinical Practice I. The organization of this practice and its quality has been significantly improved starting from 2017, when in the farm a new veterinarian - Assistant Professor was employed, who introduced several changes with a focus on student "Hands on Training".

Large Animal Practice I (40 hours in 8th semester).
This intramural practice is led by VMF teachers and takes place at the "Vecauce" Learning and Research Farm. There is a special practice program and a schedule of study subjects. The practice program describes the tasks to familiarize students with the organization of veterinary work in rural conditions, to improve practical skills in clinical, gynaecological and pathologanatomical examination of large animals, as well as prevention and treatment of non-infectious, surgical and contagious diseases; artificial insemination and obstetric assistance. The number of animals used and the purpose of the "Hands on Training" is summarized in the Table No. 1.2.

Table No. 1.2.
Large Animal Practice I – the number and purpose of "Hands-on Training"

Purpose/study subject	2016/2017		2017/2018		2018/2019	
	Cows	Calves	Cows	Calves	Cows	Calves
Reproduction of farm animals	188	6	208	8	119	6
Internal diseases, herd health. Herd rating (953 cows per herd)	12	23	36	0	150	0
Clinical and laboratory diagnostics	44	0	8	28	40	0
Large animal surgery	30	0	18	0	42	2
Diagnosis of infectious diseases	200	0	98	0	150	0
Parasitology	446	76	442	25	270	10
In total	**920**	**105**	**810**	**61**	**851**	**18**

There has been no major change in the organization of Large Animal Practice I. The teaching staff is paying close attention how each individual student is performing "Hands-on Training".

Large Animal Practice II (3 weeks, 40 h per week in 8th semester).
This is an **extramural practise** with a contracted veterinary practitioner – practice supervisor. The practice takes place in the spring and focuses on obstetrics and gynaecology.
During the practice students register patients and the main information about them in a practice record book. After the practice, students write a practice report and each individually defends the practice activities in discussions with the lecturer. The number of patients - animals of different species involved in Large Animal Practice II during different periods is listed below in Table No. 1.3.

Table No. 1 .3.

	Large Animal Practice II periods		
	2 - 19 May, 2017	**23 – 28 April, 2018**	**13 – 31 May, 2017**
Animal species	**Number of patients**		
Cows	5844	6876	9634
Pigs	90	255	38
Sheep	756	1279	478
Goats	32	64	29
Horses	**226**	**179**	**298**
Dogs	209	100	146
Cats	153	67	102
Birds	39	100	28
Other species	162	57	163
In total	**7511**	**8977**	**10916**

Clinical Practice II (40 hours in both the ninth and the tenth semester of 6th year) students have a practice in a VK - Small animal and Horse clinic. When manipulations are planned in the Equine clinic, students have the opportunity to participate in equine diagnostics and treatment. The purpose of this practice is to perform clinical examinations and laboratory diagnostics, as well as to participate in clinical work, treatments of animals. Students have to select one clinical case for in-depth analysis and at the end of the practice they have to perform oral presentation to the supervisor. Fifth-year students perform clinical examinations of animals, various clinical manipulations; prepare a treatment plan that is discussed with the patient's treating veterinarian. Students have access to the software of the clinic and to the information about the patients - results of clinical and laboratory examinations and other documents.

Major Changes in Clinical Practice II:

1. As the number of horse patients increases, students have more possibilities to practice in the equine clinic and perform clinical manipulations.
2. Students have access to the clinic's internal computer program.
3. At the end of the practice students have to present elected clinical case of an animal they have participated the treatment process starting from the admission of the animal.

Clinical Rotation I (6 weeks during the 10th semester of the fifth year).
This is an extramural practice, during which students are practicing with certified veterinarians outside the university. Students can choose a type of veterinary practice e.g. small animal, equine, farm animal etc. and a veterinarian to practice with. Before students are sent to practice, head of Clinical institute analyses a list of practices and in case of doubt requests and additional information from Latvia Veterinary Association. At the end of the practice, students must prepare description of three patient clinical cases and present one of them orally.

Major Changes in Clinical Rotation I:

1. An improved system how to choose a practice placement. The proposal for student's practice placement is analysed by the practice supervisor, director of the Clinical institute and opinion is sought also from the Latvian Veterinary Association.
2. Practice completion requirements are as close as possible to real life. Students must prepare three patient treatment records and present one orally.

Clinical Rotation Practice (20 weeks during the 11th and 12th semester of the 6th year).
This is internal practice, consists of six blocks - Small Animal Therapy, Small Animal Surgery, Equine Medicine, Farm Animal Medicine (Teaching and Research Farm "Vecauce", Mobile Clinic and Pathology. Each block lasts 3 weeks where, it is 18 weeks and 2 weeks are dedicated to preparation and defence the "Final Theses".

Accordingly, during Clinical Rotation Practice students are divided into six groups, 4-6 people in each group.

1. Small Animal Therapy

In the Small Animal Therapy block, students are divided into subdivisions - visual diagnostics, outpatient admissions and inpatient care and emergency care. The student spends one week in each subdivision.

Visual diagnostics

The student participates in ultrasonography, echocardiography, radiography and computed tomography examinations. Students have the opportunity not only to assist in examinations, but also to practice examinations. During the Rotation Practice each student has a task to prepare detailed descriptions of three radiographic examinations. Following the preparation of the descriptions, there is a discussion during which the student presents his or her descriptions to the radiologist.

Outpatient admission

Outpatient admissions are arranged both by appointment and on a first come first served basis. During the Rotation Practice, all students are tied to a specific veterinarian, depending on the working day. Students have the opportunity to individually admit patients who come to VK without prior appointment.

This type of admission is organized according to generally accepted standards - the veterinarian introduces the student to the client, the student collects anamnesis and conducts a general clinical examination. The veterinarian takes note of the information obtained by the student and together they decide about further diagnostics needed and draw up the subsequent treatment plan.

At the end of the Rotation Practice block, the student must successfully pass a written test and orally present one clinical case that has been clinically examined and treated by the student.

Care of stationary animals

As of September 2019, a new staff position has been created at the Small Animal Clinic, a veterinarian who takes care of stationary animals and provides emergency care. Students during this practice block participate in all emergency cases. As one of the tasks of this veterinarian is to carry out the vaccination of the animals, students have the opportunity to participate and practically vaccinate small animals of different species. Students, under the supervision of a veterinarian, perform various diagnostic examinations and clinical manipulations, prescribed to the inpatient animals.

2. Small Animal Surgery block

Changes have been made in the Small Animal Clinic, in the admission of surgical patients. All patients scheduled for surgery on a given day are admitted between 9:00 to 10:00 am and are hospitalized. Student together with anaesthetist and assistant are performing patient preparation for surgery on a first-come, first-served basis. The student's task is to perform a clinical examination of the patient before anaesthesia, to take blood samples, to interpret the results of blood tests, to prepare an anaesthetic protocol, to insert an intravenous catheter, to administer medication, to intubate animals. Students may do several surgical manipulations under the control of a veterinarian - wound treatment, castration, sterilization, neoplasm resection, sanitation

of oral cavity etc. Complex surgical manipulations are performed by the veterinarian and the student has the opportunity to assist.
At the end of this practice block, the student must successfully pass a written test and orally present one clinical case that has been clinically examined and treated by the student.
In the Small Animal Clinic, in addition to the daily practical work, the 6th year students are given several theoretical/practical classes - ultrasonography, radiography, journal club, lecture on soft tissue and bone disease treatment; lecture on anaesthesiology.
At the Small Animal Clinic, student practice is organized in both day and night shifts.

Major changes in Small Animal Clinic:

1. Extended time for one outpatient appointment. It is because a veterinarian and a student have more time to conduct a patient examination, to discuss the results and develop a further diagnostic and treatment plan.
2. All Rotation Praxis students have access to the clinic's internal computer program.
3. All surgical patients for planned manipulations are admitted in the morning during one hour, when student together with the veterinarian accepts the animals. When the animals are hospitalized, the student together with the veterinarian prepares the patients for surgery.
4. Students have the opportunity to develop a treatment plan together with a veterinarian.
5. The students have more possibilities to perform practical manipulation.
6. Improved the quality of Morning circles. Every working day morning all inpatient cases are discussed in detail.
7. Manipulations carried out by students are strictly controlled by a responsible veterinarian, the fact of well performed manipulation is fixed in the note-book by a signature.

3. Equine Medicine.

During recent years, the number of equine patients has increased (Figure 1), allowing students to learn and independently perform more various clinical manipulations. The number of veterinarians working at the equine clinic has increased, too - from 3 to 5, which gives the opportunity to improve the work with students and serve more clients. In order to provide students with access to different types of clinical cases, student practice is organized in the morning and evening shifts. Morning shift students arrive at the clinic at 8:00 am and stay until 3:00 pm. The second shift starts at 1:00 pm and lasts until 8:00 pm. Every day, one student stays on from evening shift to night shift.
Morning shift starts with the examination of inpatient horses. Examination of horses includes: detection of a body temperature; evaluation of visible mucous membranes; digital pulse palpation; auscultation of lungs, heart and abdomen. In addition, appetite, urination and defecation are assessed. For horses with intravenous catheters, the area of the catheter, but for post-operative patients the site of surgery - are observed. The results of the investigations are registered on the patient cards. The examination is followed by administration of medication. Students prepare

medications and administer them intravenously, intramuscularly or orally under supervision of a responsible veterinarian. 9:00 am starts the Morning circle. During this time students present horses inpatient cases. Presentation of each case follows a certain plan, which includes specific sections: horse data, history, diagnosis, treatment plan, testing results of the day. Subsequently, during a discussion a further examination and treatment plan is agreed. At the end of the Morning circle, the plan for the day is agreed.

After Morning circles students independently perform scheduled manipulations (such as bandage replacement, wound care, nasogastric intubation, enterofluid administration, intravenous catheter placement, horse walking) and assist veterinarians, as well as help with fixation of horses for various examinations (endoscopy, ultrasonography, radiology etc.).

Outpatient and emergency patients are admitted during the day. Students assist with collecting anamnesis and horse examinations; carry out independent examinations after a doctor has done so. During the diagnosis of lameness, students learn to differentiate between lameness, palpation of the limbs, and flexion tests.

Students learn and provide care for intensive care patients 24 hours a day, which enables them to keep abreast of their dynamics.

Prior to scheduled and emergency surgery, students participate in preparing the horse for surgery, calculating doses of anaesthetics medication, and preparing them for administration to the horse. Students prepare an operating area, introduce a urinary catheter, assist an anaesthetist and a surgeon, complete anaesthesia protocol. After the surgery, students assist with the anaesthetist in the process of horse waking up and getting up.

It is the responsibility of the students to follow the treatment plan for the inpatient animals and to keep it in place at certain times.

At 7:00 pm students examine stationary horses, perform evening manipulations and administer medication. The night shift student participates in emergency patient admissions and carries out intensive patient care.

In addition to acquiring practical skills, students have to improve theoretical knowledge as well. At least once for each student group there is a Journal club. As part of this, students analyse and discuss publications they have read. The topics of the publications are chosen by the veterinarian – supervisor. Besides that, veterinarians - supervisors give lectures also themselves on actual topics in - anaesthesiology, antimicrobial therapy for horses, colic, etc.

At the end of the bloc, students are able independently to fix and investigate the horses, as well as to perform various manipulations - administer medications, groom and dress wounds, insert a nasogastric tube, enter enterofluids, prepare the operations area and other practices. Each student has to pass a test and present a statement of one clinical case. The test questions are prepared individually for each student group and cover different topics about the cases seen during the practice.

The most important changes in the Equine clinic:

1. The number of horse patients has increased (205 horses in 2015/2016 study year; 917 - in 2018/2019 study year, see Figure1. below).
2. Staff changes - two new veterinarians and the creation of an administrator position.
3. Changes in practice time - shift work. This increases the possibility that students can see different types of clinical cases.

4. A “WhatsApp” group has been created for veterinary students and veterinarians of the Equine Clinic. If there is an interesting patient coming in the clinic or unplanned surgery is expected at the night, students will be notified and may come to the surgery.
5. Increased “Hands-on training”!

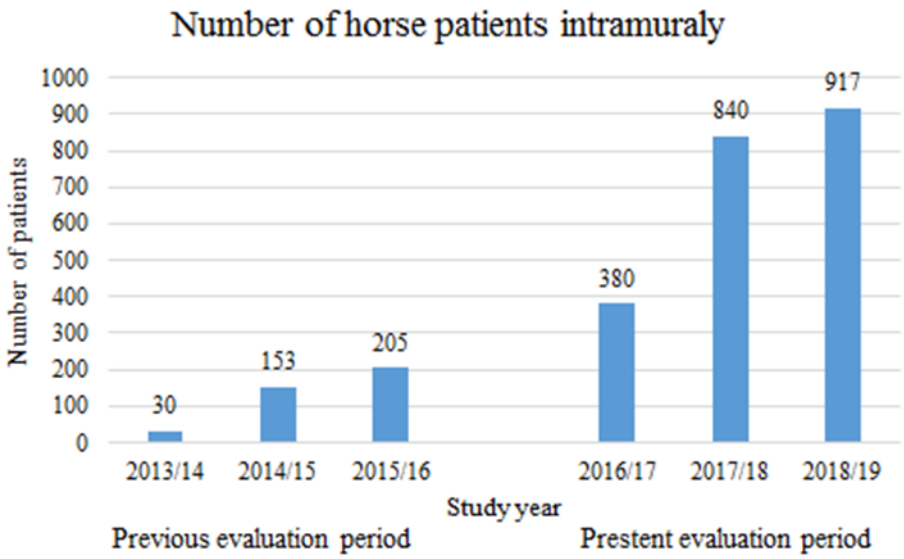


Figure 1. Number of horse patients over the last 6 study years.

4. **Mobile clinic**

The work during the block of Rotation Practice "Mobile Clinic" is mostly organized as external visits to farms (farm animals, horses), but partly it is done in the Farm Animal Clinic of LLU VK. To ensure better quality of the practice and sufficient number of patients, the number of veterinarians involved has been increased in recent years from 2 to 5 veterinarians. Each veterinarian works with students one day a week, on schedule. For students, work starts at 8.30. and lasts till 5 pm and at least one student remains on duty overnight (for emergency calls). Every working day students are tied to a certain veterinarian, under supervision of whom they go to patients to farms, admit patients, conduct a clinical examination, discuss a diagnosis, propose a potential treatment plan; perform manipulations and operations. During the block students have to analyse a clinical case (case report), which must be presented to the students of the teaching staff of the block. In addition, each group of students of a block should collectively develop an action plan to combat certain herd problem (e.g. high incidence of calf diarrhoea or pneumonia; high prevalence of endometritis or mastitis, high incidence of hypocalcaemia, ketosis, of dairy cows etc.).

Major changes -

1. Increased the number of veterinarians involved in the block activities.
2. Increased “Hands-on Training”!
3. To increase “Hands-on Training” with equine patients, a veterinarian – specialist in equine medicine is invited to take part in the Mobile Clinic block, to have field trips with students one day a week.

5. Study and research farm "Vecauce"

This block of Rotation Practice is performed under production conditions. Practice is organized in shifts (a day and night schedule). Students have the opportunity to live in dormitories next to the farm. Day shift is from 9.00 am to 5.00 pm and night shift is from 9.00 pm to 5.00 pm. At the day shift, students get involved in the day-to-day work of farm veterinarians. In the morning, a daily plan is drawn up under the supervision of a veterinarian, with daily tasks to be performed sequentially (emergencies, repeated manipulations, planned activities, documentation). In this way, students learn the basics and specifics of the organization of a farm's veterinary work. During the night shift, students focus primarily on deliveries assistance, cow and calf postpartum care.

Major changes -

1. Increased volume and quality of "Hands-on Training" (starting from the 2017/2018 academic year staff change – a new veterinarian involved in the work directly with students).
2. Improved day-to-day organization of practical training.

5. Pathology

This block of Rotation Practice begins by re- informing students about personal and environmental safety regulations, refreshing knowledge techniques of post-mortal examination, organ inspection principles, and types of pathologies. Within the block, students as a group or individually perform technically correct a complete pathological anatomical examination of dead bodies of animals of different species: recognize and describe the different types of tissue changes (post-mortal, agonal, incident, disease-related); select and take suitable samples for further diagnostic tests.
Each student should independently carry out at least one complete pathologanatomical examination, formulate and substantiate conclusions regarding the pathogenesis of pathological changes using also the information available in the literature. The main changes within this block are the introduction of further examination and analysis of the samples obtained. With few exceptions, diagnostic specimens (including histologic specimens) are taken, prepared, examined, analysed and compared with information found in the veterinary literature by the students themselves. In the frame of the block a number of lecturers work with students, who from their point of view and experience instruct students to have case studies related to the most common pathologies. At the end of the work, they jointly analyse, train for description of pathological changes and on the basis of that formulate the morphological diagnoses, as well as explain the possible reasoning for the occurrence such pathologies, taking into account all the available information (clinical, post-mortem, test results).

Significant changes:

1. There are several lecturers working with students in the Pathology block, thus providing an opportunity to investigate cases from different perspectives.
2. Great emphasis is placed to reach student's confidence in his / her skills, knowledge and competence to carry out a full pathologanatomical examination of the animal bodies.

3. Students are given the opportunity to train skills how to perform post-mortem examination, recognize and interpret the results of various commonly known pathologies of different species of animals.

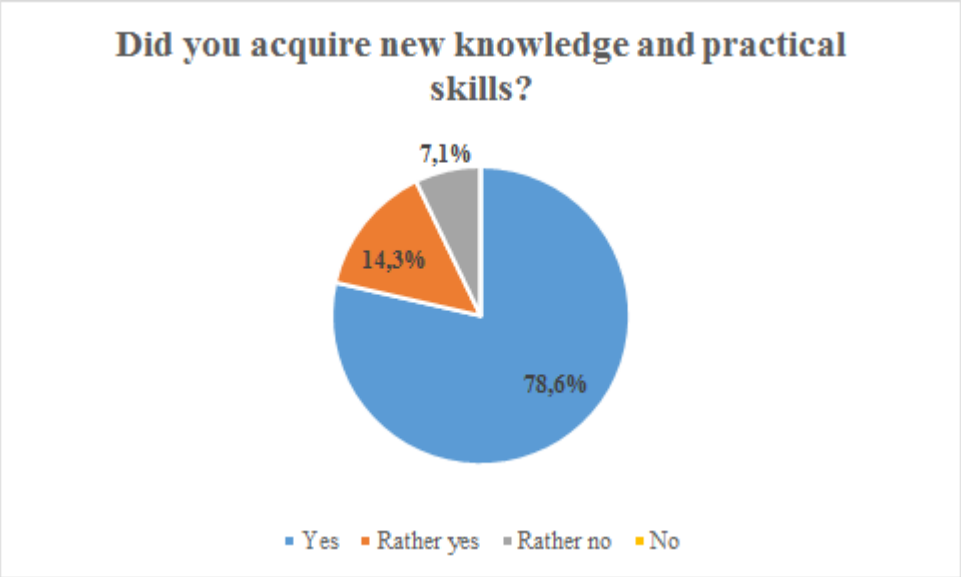
At the end of the Clinical Rotation Practice, students get an individual questionnaire about the usefulness of the Practice. The answers on the questionnaires from several years show that the organization of Practice improves from year to year and students value the possibility to have practical manipulation.

Survey results of 2018/2019 st. year Clinical Rotation Practice

Survey results on the Small Animal Therapy Block:

Positive things	Negative things
1. Positive attitude of staff. 2. Liked practical classes in ultrasonography, radiology. 3. Liked the possibility to receive outpatient patients themselves. 4. There was a chance to learn a lot of practical things.	1. Because of the high patient flow, it is sometimes difficult to track a patient. 2. Would like to receive patients even more often.

Survey results on the Small Animal Surgery block:

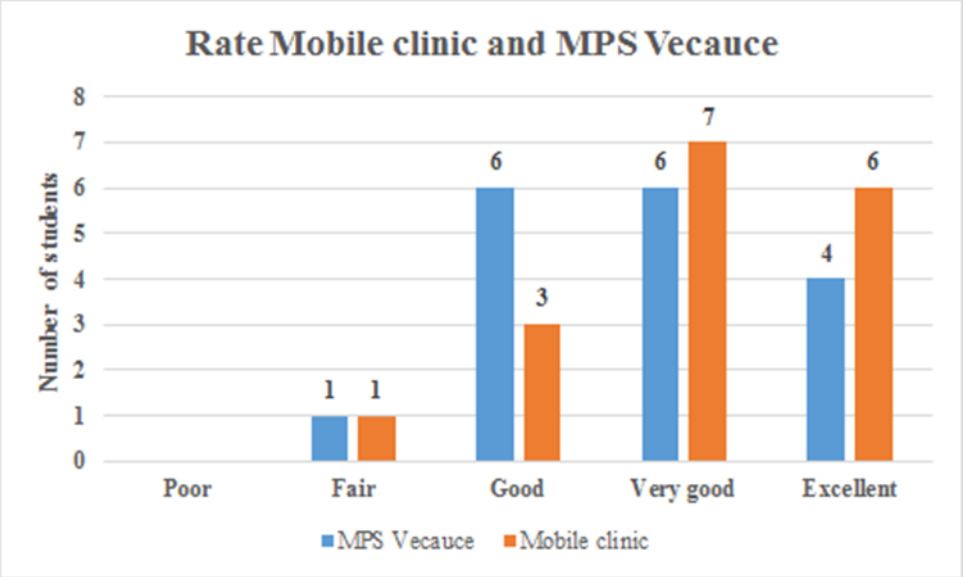


Positive things	Negative things
1. Positive attitude of staff 2. Liked the possibility to work in practice. 3. There was a very good opportunity to learn veterinary anaesthesiology, choose anaesthesia means and prepare the animal for surgery.	1.Would like to have more surgery myself.

Survey results on the Equine Medicine block:

Positive things	Negative things
1. There were very valuable seminars on various topics, especially on anaesthesiology and pharmacology. 2. Very useful Morning Circles. 3. Responsive staff. 4. There were possibilities to carry out manipulations by themselves. 5. Excellent opportunity to repeat equine medicine before the state exams.	1. High load.

Survey results on the Large Animal block in the farm "Vecauce" and on Mobile Clinic block:



Positive things	Negative things
1. The opportunity to work a lot practically. 2. Liked the practical classes. 3. During the Mobile Clinic block, there were possibilities to visit different species of animals.	1.Under farm conditions, it is difficult to know a complete anamnesis.

1.2. Comments

The number of horse patients has increased both at the LLU Veterinary Clinic as well as during the Mobile Clinic visits, resulting in an increase of "Hands on Training" for students. VK patients students are more available to students through the year round – the 3rd and the 6th year students from January to May; the 3rd and 5th year students from September to December.

1.3. Suggestions for improvement

1. The 6th year Clinical Rotation Practice will be extended (by moving all Clinical Rotation Practice parts from 5th year to 6th year).
2. The number of patients to be examined by students themselves will be further increased.
3. Morning Circles will be introduced in Large Animal block of the Clinical Rotation Practice in the study and research farm "Vecauce" as well to improve the possibility for students to obtain anamnesis of livestock diseases.

4. During Clinical Practice II, as of September 2019, 5th year students will be required to be on duty not only in Small Animal Clinic, but in Equine Clinic as well.

2. Correction of Minor Deficiencies

2.1. Minor Deficiency 1: Lack of competitive salaries could mean a loss of key staff, especially in the clinical area.

2.1.1. Factual information

1. In 2017, the LLU introduced a system of motivation for academic staff, which defines the criteria for awarding points for which additional remuneration is granted, thus increasing the salary up to 20%. In addition, the remuneration of study program directors depending on the number of students is introduced.
2. From September 1, 2018, the time for full-time teaching status of the staff of LLU has been reduced, and from September 1, 2019, these hours will be further reduced based on Senate resolution no. 10-4 from March 13, 2019.
3. The teaching staff has a maximum of 25 hours of study work working time per week for a full staff status (FTE). In addition to study work up to 40 hours a week (full working time as defined by the Latvian Labour Law) teaching staff can work for extra pay on projects, science, as a veterinarian in the VK of LLU etc.
4. From October 1, 2018, the salary was increased for the LLU teaching support staff.
5. The Dean has access to funding from the Dean's Fund to pay the staff for additional work.
6. According to official statistics, a veterinarian working in the VK of LLU receives on average 37.25% more than the average gross salary in the country in 2018. Leading veterinarian working in the VK of LLU receives on average 68.63% more than the average gross salary of the sector in the country in 2018.

In Veterinary Clinic of the LLU salary is determined according to certain criteria - length of work experience, scientific degree, specialization. The salary according to the Rector's order is from 5 EUR / h to 20 EUR / h. The lowest rate is for on-duty veterinarians in the VK, but the highest rate is for veterinarians, who are considered to be the leading specialists in the field in Latvia and have a scientific degree of Dr.med.vet. During night hours, the wage is doubled by 50% of the base rate.

2.1.2. Comments

The motivation system created in 2017 has great prospects. Since the introduction of this system, LLU staff members have started to use e-studies more, participate in social activities, and the study process has improved, as one of the evaluation criteria of the motivation system is the results of student questionnaires.

2.1.3. Suggestions of improvement

Financial autonomy can help increase flexibility regarding salaries.

2.2. Minor Deficiency 2: There is a need to increase direct involvement of 6th year students in the clinical work during the entire 6th year, although it is noted that other years are also involved with clinical cases.

2.2.1. Factual information and improvement

Changes have been made in the veterinary medicine study program (planned to be implemented starting with the 2020/2021 academic year), in order to improve clinical training of the 6th-year students with the training possibilities at the VK of the LLU throughout the academic year. In the current program, practical training during the Clinical Rotation Practice is conducted in semester 10th - for 10 weeks, in semester 11th - for 4 weeks and in semester 12th for 16 weeks (see table 2.2.1.). To extend the period of practical training for the 6th year students, the Clinical Rotation Practice is scheduled to be transferred from the semester 10th to the semester 11th, thus extending it by 6 weeks. As a result of the accepted changes, starting from 2020/2021, during the 6th year autumn (fall) semester will take place Clinical Rotation Practice I (10 CP - 10 weeks) and during 12th spring semester - Clinical Rotation Practice II (16 CP - 16 weeks), which significantly improves involvement of students in veterinary medicine practice at LLU Veterinary Clinic. As a result of the current changes, the theoretical study courses in 11th semester are significantly shortened to 11 CP.

Table 2.2.1

2018/2019 study year		**2020/2021 study year**	
Semester	**Study practice**	**Semester**	**Study practice**
10th semester	Clinical rotation I 6 CP (240h)		
11th semester	Clinical Rotation II 4 CP (160h)	11th semester	Clinical rotation I 10 CP (400h)
12th semester	Clinical rotation III 16 CP (640h)	12th semester	Clinical rotation II 16 CP (640h)

Due to changes in the clinical training, there are changes in food safety and public health studies also planned, transferring most of them to the 10th semester. Thus is ensured that theoretical and practical training in food safety area is completed before Rotation Practices start.

Following the changes made, starting from the academic year 2020/2021, the clinical training will be significantly extended during the 6th year, thus providing more clinical cases and the students will have fully completed all theoretical courses, incl. courses in food safety.

2.2.2. Comments

In the time of Clinical Rotation Practice of 6th year students in VK, there are also students of 3rd year (the fifth, sixth semester) and 5th year (the 9th semester) practicing in Clinical Practice II.

2.3. Minor Deficiency 3: A lack of a sufficiently developed residency program.

2.3.1. Factual information

For the last three years, the VMF has tried to improve the situation regarding the involvement of European and American diplomats in the study and clinical training. Since 2015, regular visits to VMF by Dr. Charlotte Sandersen (DVM, PhD, Dip.ECEIM, Dip.ECVAA) are organised. Dr. Charlotte Sandersen leads the theoretical and practical classes in a study course "Emergency and anesthesiology" and is a consultant to several doctoral students. Very much appreciated also Dr. Sandersen's support in training veterinarians of VK, as well as mutual cooperation between LLU VMF and University of Liege (Dr. Sandersen's permanent working place) - ERASMUS + projects, internship placements, etc.
Since 2016 LLU VMF regularly visits Dr. Thierry Olivry (DrVet, PhD, DACVD, DECVD), who provides lectures and practicals in dermatology.

2.3.2. Comments

Currently we believe that the Latvian market is relatively too small for the establishment and successful development of an international residency program at the LLU VMF, however, we see potential for the establishment of a residency program in the future. It must be admitted that at the moment LLU Finances does not allow to hire a veterinarian – high specialist from abroad for a permanent work, as the state legislation does not provide increased salary rate for such high-level specialists.
To develop in the future the residency program at the LLU VMF, we have begun discussion about sending our specialists to other universities to pursue some residency program, e.g. anaesthesiology. It is planned that from September one of the LLU doctoral students will start residency studies in dermatology, taking in mind that in the future she could return to VMF and open a residency program in Latvia.

2.3.3. Suggestions of improvement

- To find financial opportunities to finance residency training abroad for some LLU VMF veterinarians, at the same time concluding a cooperation agreement with the providing University to set up common residency program in Latvia.

- Establish a local residency program, such as visual diagnostics or surgery. Currently, veterinarians from other clinics regularly come to LLU Veterinary Clinic for trainings. In our opinion it shows the potential of local residency.

2.4. Minor Deficiency 4: Paid time free of teaching and clinical duties is needed for PhD students in order to allow them to concentrate on their research projects.

2.4.1. Factual information

The Doctoral Program "Veterinary Medicine" is one of 13 doctoral programs offered at the University of Life Sciences and Technologies in Latvia (LLU). The number of doctoral students enrolled in the doctoral program "Veterinary Medicine" varies each year from 2 to 10. Doctoral students may have different background or work experience, including clinical practice, work at governmental agencies, research institutions and universities. Overall, the doctoral program "Veterinary Medicine" has 18 doctoral student places, including 10 full-time doctoral students, and eight in academic leave (due to various reasons, maternity leave, family matters or current employment restrictions).

Specific attention is paid to academic staff carrying out doctoral studies. Currently, teaching load carried out by doctoral students is unbalanced due to University regulations setting up teaching (contact) hours with undergraduate students, thus lecturers, docents doing doctoral studies are not able to dedicate sufficient time for their research activities. Thus, time and financial constraints are still the most serious obstacles to complete doctoral studies in due time.

Despite the current constraints, LLU provides various support tools through a special contract with doctoral students involved in teaching at the VMF:

- fully paid 5 days-off to prepare for enrolment to doctoral studies;
- fully paid 3 months-off period (once) to prepare a Doctoral Thesis before submission to the Promotion board;
- in addition, fully paid 20 days-off to prepare Doctoral Thesis before defence.

In total, doctoral student with academic staff position can get approximately 5 month-off fully paid period during doctoral studies.

Basic salary / grant for doctoral student per month is € 113.83, in addition he / she can receive € 85.37 (as study credit). Overall, it is a symbolic financial support which does not cover basic living costs during the studies.

The University has recently launched a special grant system to support doctoral students and their supervisors to facilitate their research or research-mobility activities. The grant is approximately $ 8,000 for a 2-3-year period.

2.4.3. Suggestions of improvement

Current employment agreements with academic staff during their doctoral studies could be revised to agree on more flexible working conditions at the department / institute level. This would allow more time for the research activities. In addition, due to extremely limited funding (doctoral salaries/ grants), more active involvement of doctoral students in research projects has to be considered. This could also be a part of international / regional research cooperation activities in veterinary medicine.

2.5. Minor Deficiency 5: Improving communication and feedback from students, especially the web-based course evaluation tool.

2.5.1. Factual information

Since 2011, students have the opportunity, using the LLU electronic information system (LLU IS), regularly, after each semester to evaluate the quality of each study course acquired. The initial course evaluation questionnaire contained 10 questions. To facilitate student participation in the survey, the questionnaire was reduced and from the fall semester of 2018 there are only 6 questions.

The evaluation of each study course in LLU IS is available for:

- each lecturer about their study courses;
- the Director of the study program for all study courses of the program;
- the Dean of the Faculty for all study courses of the study programs of the Faculty;
- the Vice-rector for all study programs and study courses of the LLU.

Student assessment is taken into account when -

- calculating points for teaching staff motivation system (introduced in 2017, is a results-based system, giving additional payment according the collected points);
- there is election (re-election) of the academic teaching staff;
- concluding annual contracts with visiting lecturers.

Study year	**Number of students at the beginning of the survey**	**Participated in the survey**	**%**
2016/2017	280.5	92.5	33
2017/2018	303	130	42
2018 autumn	312	147	47

With the introduction of the teaching staff financial motivation system in 2017, which takes into account the results of the student survey, lecturers are interested to have as much replies to survey as possible.

2.5.2. Comments

Discussions are ongoing between all universities on how to motivate students to complete questionnaires

2.6. Minor Deficiency 6: Improving the English teaching in the view of the admission of an increasing number of foreign students.

2.6.1. Factual information

A number of improvements have been made to the admission process of foreign students at the University:

1. The University joined (2017) the Latvian Higher Education Export Association in order to ensure good enrolment practice at the Establishment: guarantees a transparent and fair admission system that is understandable to applicants;
2. Developed transparent student admission algorithm in LLU with the involvement of responsible staff (Centre for International Cooperation, Faculty of Veterinary Medicine), staff functions are reviewed;
3. Identified and targeted markets (countries) where is a potential of veterinary medicine students - Germany, Finland, the Netherlands (from 2019). The University hires agents abroad, attends educational exhibitions (Hamburg, Germany; Helsinki, Finland), publishes promotional and other information materials;
4. Applicants are offered the opportunity to visit the Faculty of Veterinary Medicine of LLU before enrolment – excursion; meeting with students (including foreign students), teaching and VK staff, visitation of an infrastructure (including dormitory) etc. After such an introduction about 80% of visitors submit documents for enrolment;
5. Developed and on May 28, 2019 launched an Electronic Enrolment system to studies in LLU for Foreign Students.

Upon arrival, students are offered a variety of socializing events organized by the International Cooperation Centre and the ESN (ERASMUS *Student Network*) - cultural evenings, field trips, etc. The Veterinary Students' Self-Government is also involved.

The Faculty is constantly improving the provision of study process for foreign students. An electronic assessment of study courses in English has been introduced to improve the quality of the study courses and to provide feedback between the foreign students, the study program director and the lecturers.

8.2.2. The project (EU SAM project No. 8.2.2. 0/18/A/014) includes paid professional English courses for elected academic staff. Priorities have been identified, faculty members have been selected, faculty coordinators have been appointed, and a procurement process has begun for the launching of English language courses.

LLU management has identified the needs of the VMF and has launched a project "Improvement of Latvian Agricultural Management" (No. 8.2.3.0/18/A/009), which provides for the professional development of teachers, including the strengthening of English language skills for working with foreign students. Within the framework of it there is a contract concluded with prof. Andres Valdmann (EST), who will give lectures and practical classes in English on Gynaecology and Reproduction starting from the 2019/2020 school year. Thus, improving English language training.

In frame of this project, foreign experts will be engaged evaluate independently undergraduate, master and doctoral programs of the LLU. As a result of this project, we expect a number of recommendations from foreign experts, which we will be able to integrate into VMF study program, improving the study program, course content and their implementation. It will also promote international cooperation with European higher education institutions, integrate VMF into the European Veterinary Higher Education Network, and attract foreign students.

2.6.2. Comments

Lecturers and visiting professors from foreign countries are regularly invited to improve the quality of studies. Effective students, teachers and administrative personnel interactions integrate them in studies and social life. Continuing improvement of the English studies based on the factual study information, students and teacher feedback.

2.6.3. Suggestions of improvement

The VMF will work to establish a continuity and sustainability of the English teaching in terms of improvement the methodology of teaching for foreign students, quality of teaching in English, increasing degree of multicultural communication and interactions.

VMF will continue a task on raising of the competitiveness of the faculty by allocation of additional resources for studies and research, rising the qualification of teachers, establishing close interaction with the administration to involvement of the admission and overall quality of teaching. The VMF will work for more intensively on integration of the faculty in veterinary university network in Europe.

Regarding admission, the VMF will revise and update the admission requirements for foreign students by enrolling only the students with the best scores according to their previous education diploma starting from the academic year 2020/2021.

3. ESEVT Indicators

3.1. Factual information (*Updated data for the last three academic years*)

Table 3.1.

	Name of the Establishment:	**Latvia University of Life Sciences and Technologies Faculty of Veterinary Medicine**			
	Name & mail of the Head:	**Dean, associate professor, Dr.med.vet. Kaspars Kovalenko & kaspars.kovalenko@llu**			
	Date of the form filling:	**07.08.2019**			
	Raw data from the last 3 full academic years	**2016/17**	**2017/18**	**2018/19**	**Mean**
1	n° of FTE academic staff involved in veterinary training	43	42,78	46,7	44,16
2	n° of undergraduate students	293	315	315	307,67
3	n° of FTE veterinarians involved in veterinary training	19,79	27,18	40,28	29,08
4	n° of students graduating annually	26	38	38	34
5	n° of FTE support staff involved in veterinary training	37,02	41,06	42,59	40,22333333
6	n° of hours of practical (non-clinical) training	1666	1589	1617	1624
7	n° of hours of clinical training	1348	1292	1386	1342
8	n° of hours of FSQ & VPH training	260	260	260	260
9	n° of hours of extra-mural practical training in FSQ & VPH	160	160	160	160
10	n° of companion animal patients seen intra-murally	6891	6541	5915	6449
11	n° of ruminant and pig patients seen intra-murally	683	8162	10017	6287,333333
12	n° of equine patients seen intra-murally	380	840	917	712,3333333
13	n° of rabbit, rodent, bird and exotic patients seen intra-murally	98	176	236	170,0
14	n° of companion animal patients seen extra-murally	3417	9888	4900	6068,3
15	n° of individual ruminants and pig patients seen extra-murally	10592	13163	12890	12215,0
16	n° of equine patients seen extra-murally	704	492	440	545,3
17	n° of visits to ruminant and pig herds	37	48	49	44,7
18	n° of visits of poultry and farmed rabbit units	1	2	2	1,7
19	n° of companion animal necropsies	166	101	125	130,7
20	n° of ruminant and pig necropsies	84	79	21	61,3
21	n° of equine necropsies	9	14	12	11,7
22	n° of rabbit, rodent, bird and exotic pet necropsies	89	60	93	80,7
23	n° of FTE specialised veterinarians involved in veterinary training	0,30	0,026	0,026	0,1
24	n° of PhD graduating annually	0	2	4	2,0

The boxes within the red frames must be filled in by the Establishment (the other values will be automatically calculated)

Table 3.2.

Name of the Establishment:	Latvia University of Life Sciences and Technologies Faculty of Veterinary Medicine				
Date of the form filling:	07.08.2019				
Calculated Indicators from raw data		**Establishment values**	**Median values1**	**Minimal values2**	**Balance3**
I1	n° of FTE academic staff involved in veterinary training / n° of unde	0,144	0,16	0,13	0,018
I2	n° of FTE veterinarians involved in veterinary training / n° of studer	0,855	0,87	0,59	0,266
I3	n° of FTE support staff involved in veterinary training / n° of studer	1,183	0,94	0,57	0,617
I4	n° of hours of practical (non-clinical) training	1624,000	905,67	595,00	1029,000
I5	n° of hours of clinical training	1342,000	932,92	670,00	672,000
I6	n° of hours of FSQ & VPH training	260,000	287,00	174,40	85,600
I7	n° of hours of extra-mural practical training in FSQ & VPH	160,000	68,00	28,80	131,200
I8	n° of companion animal patients seen intra-murally / n° of students	189,676	70,48	42,01	147,667
I9	n° of ruminant and pig patients seen intra-murally / n° of students gı	184,922	2,69	0,46	184,458
I10	n° of equine patients seen intra-murally / n° of students graduating a	20,951	5,05	1,30	19,653
I11	n° of rabbit, rodent, bird and exotic seen intra-murally / n° of studer	5,000	3,35	1,55	3,455
I12	n° of companion animal patients seen extra-murally / n° of students	178,480	6,80	0,22	178,257
I13	n° of individual ruminants and pig patients seen extra-murally / n° o	359,265	15,95	6,29	352,970
I14	n° of equine patients seen extra-murally / n° of students graduating a	16,039	2,11	0,60	15,444
I15	n° of visits to ruminant and pig herds / n° of students graduating anr	1,314	1,33	0,55	0,767
I16	n° of visits of poultry and farmed rabbit units / n° of students gradua	0,049	0,12	0,04	0,004
I17	n° of companion animal necropsies / n° of students graduating annu	3,843	2,07	1,40	2,443
I18	n° of ruminant and pig necropsies / n° of students graduating annual	1,804	2,32	0,97	0,834
I19	n° of equine necropsies / n° of students graduating annually	0,343	0,30	0,09	0,250
I20	n° of rabbit, rodent, bird and exotic pet necropsies / n° of students g	2,373	2,05	0,69	1,680
I21*	n° of FTE specialised veterinarians involved in veterinary training /	0,003	0,20	0,06	-0,060
I22*	n° of PhD graduating annually / n° of students graduating annually	0,059	0,15	0,09	-0,029
1	Median values defined by data from Establishments with Approval status in April 2016				
2	Recommended minimal values calculated as the 20th percentile of data from Establishments with Approval status in April 2016				
3	A negative balance indicates that the Indicator is below the recommended minimal value				
*	Indicators used only for statistical purpose				

Number of hours

In general, the number of students has been stable (unchanged) during the last three years, but the number of teaching staff FTEs and support staff participating in the implementation of the study program has gradually increased.

There is increased time of practical classes and clinical practices, thus increasing the "Hands-on Training" possibilities.

Characterization of the number of clinical cases

Over the past three years, the number of clinical cases used in student training has significantly increased, so the quality of the training process is improved. "Hands-on Training" has increased, especially in relation with equine patients.

"Post mortem" examinations. Small animal "Post mortem" examinations have decreased, but we believe that this reduction is insignificant. The decrease in the number of pig examinations is due to the introduction of bio-security measures in the country due to African swine fever outbreaks. The number of horse examinations have increased, which is explained by the increase of the number of horse patients at the LLU VK.

The number of defended dissertations is not big, but it is important to mention that in recent years only two students are admitted with public funding, hence the number of graduate Doctoral (Dr.med.vet) students in 2018 and 2019 is considered satisfactory.

3.2. Comments

Attracting foreign visiting lecturers (with completed European or American residency program) to the study process is difficult due to the low level of salaries (see 2.2 Minor Deficiency 3).

3.3. Suggestions for improvement

- More actively attract guest lecturers through the ERASMUS program.
- To develop more accurate registration system of foreign guest lecturers, as we have had more guest lecturers through various other projects.