STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Lietuvos sveikatos mokslų universiteto

MEDICININĖS IR VETERINARINĖS BIOCHEMIJOS PROGRAMOS (*612C74001*)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *MEDICAL AND VETERINARY BIOCHEMISTRY* (*612C74001*)

STUDY PROGRAMME

at Lithuanian University of Health Sciences

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Išvados parengtos anglų kalba
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Medicininė ir veterinarinė biochemija***
Valstybinis kodas	612C74001
Studijų sritis	Biomedicinos mokslai
Studijų kryptis	Molekulinė biologija, biofizika ir biochemija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3,5)
Studijų programos apimtis kreditais	210
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Medicininės ir veterinarinės biochemijos bakalauras
Studijų programos įregistravimo data	2011-06-22 įsakymo nr. 1-01-84

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Medical and veterinary biochemistry***
State code	612C74001
Study area	Biomedical Sciences
Study field	Molecular biology, biophysics and biochemistry
Kind of the study programme	University studies
Study cycle	first
Study mode (length in years)	Full-time (3,5)
Volume of the study programme in credits	210
Degree and (or) professional qualifications awarded	Bachelor of Medical and Veterinary Biochemistry
Date of registration of the study programme	22-06-2011, order no. 1-01-84

CONTENTS

I. INTRODUCTION

The study programme Medical and Veterinary Biochemistry (hereinafter MVB) is carried by the Lithuanian University of Health Sciences (hereinafter LUHS). This is the largest institution of higher education for biomedical sciences in Lithuania, which merges Medical and Veterinary studies. This MVB study programme aims at training non-medical and non-veterinary students in Medical and Veterinary Biochemistry and provide them with a Bachelor Degree.

Its duration is 3.5 years, corresponding to seven semesters with 30 credits per semester for a total of 210 credits. This study programme is recent as it started from the 2011-2012 academic years. The first students of the programme will graduate this year.

The international expert team for evaluation of this bachelor degree Programme consisted of:

- Prof. Dr. Laurent Counillon (group leader) – University of Nice, France;
- Prof. Dr. Christoph Griesbeck, Head of Department and Study Programmes Biotechnology – MCI – Management Center Innsbruck, Austria;
- Prof. Dr. Meza Trine Johansen - Assistant Deputy Director General, Department of Quality Assurance NOKUT, Norway;
- Julius Gagilas**,** Director of company **"**Diagnolita", Lithuania;
- Benas Gabrielis Urbonavičius, Student representative, Kaunas University of Technology, Lithuania.

This evaluation report prepared by the expert team is based on the analysis of Self-Evaluation Report (hereinafter SER) including Annexes and site visit on 20th of March 2014. During the visit, the committee met: the administrative staff, the self-evaluation report writing team, the teachers, the students, alumni and social partners.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The aims of the study programme and its learning outcomes have been defined based on the reflection that beyond medical and veterinary doctors, excellent specialists in Medical and Veterinary Biochemistry were needed in different sectors of social services and industry. The process that conducted to the precise definition of the programme encompassed a detailed consultation of social partners and an important collective work of the teaching staff. The fact that this process was indeed well conducted was obvious during the site visit. The administration, teaching staff and social partners were very well informed and showed a very cohesive attitude towards the programme.

This led to the aims of the Medical and Veterinary Biochemistry, very well described in the SER as « to train business-oriented and innovative biochemistry professionals, who are able to act according to good laboratory practice requirements, to organize and conduct laboratory investigations in the areas of diagnostics of human and animal diseases, to monitor environmental impacts, to control food and agricultural products » (SER page 5).

Based on this, it has to be stated that the learning outcomes are very well defined and set in the context of the corresponding subjects. The details of the connections between competences, learning outcomes and study courses are given in Table 4 of the SER. The aims and learning outcomes are sound and very well constructed, and are fully consistent with the type and level of studies and the level of qualifications offered.

The aims and learning outcomes are provided in the LUHS Official Information, on the LUHS website, on booklets and leaflets. Description of the subjects and modules are also placed on the LSMUSIS database8. It appears also that secondary schoolboys and schoolgirls can pay visit to the laboratories and get information about the MVB programme (SER page 8). Also information is distributed during Science Days and High School Fairs (SER page 9). Taken together, the information on the programme is publicly accessible. This is confirmed by the fact that in average 400 to 500 candidates apply per year (SER, page 23).

As previously mentioned the programme aims at satisfying a demand of excellently-trained Veterinary and Medical Biochemists, the number of students being about 20 per year. Various Social partners have been included in the survey that preceded the creation of this programme: Biotechnology industry, food industry, hospital and veterinary biochemical laboratories, environmental impacts. These partners were present during the visit of the experts' group. From the discussions with the experts, the partners confirmed that they had been consulted for the construction of the programme. Several of them stated that they were perfectly aware of whom to contact in the administration of the programme in order to make suggestions or propose new ideas. This process seems to be both easy and quite informal. To summarize they appeared well involved in this programme and were very well informed of it.

Based on this, an estimate of the yearly job availability has been set around 20 graduates per year. This corresponds to the number of students accepted per year. The expert panel finds that this is indeed an excellent way of both designing a programme as well as estimating the number of students.

Interestingly, in addition to specific scientific courses, the students can receive (mostly eligible) courses in English, psychology and communication, management, professional practice or information technologies (SER Table 4 pages 6-8). This effort is important to reach the business-orientated aims of the programme. For a curriculum of such quality, the committee found that additional elective courses in transverse subjects could be proposed to the students.

Taken together, these different elements clearly show that the programme aims and learning outcomes have been based on public needs and needs of labour market.

The aims and learning outcomes of MVB programme are fully compatible with competences for a bachelor degree and satisfy the needs for a Medical and Veterinary Biochemistry programme. They are described in the documents of The European Communities Confederation of Clinical Chemistry and Laboratory Medicine (EC4): a) the ability to obtain/explore, and employ knowledge and methods of investigation in the interest of health care and humankind; b) broad knowledge of, and insight into, biochemical processes in human health and disease on a general and patient-specific level; c) knowledge of, and insight into, the use of technology and analytical techniques relevant to the field of specialization, an active appreciation of developments, and an attitude of innovation and creativity in their implementation in the profession of Clinical Chemistry; d) the ability to take responsibility for the data and information produced, including knowledge of the influence of variation (biological as well as analytical) on interpretation of data, e) the ability to communicate orally and in writing, including the production of clear, cogent reports. » (SER page 9,www.ec-4.org/downloads/GuidetoRegister_3-2010.pdf).

It was very clear from the discussion with the students during the visit that they were well prepared for this type of level and qualification. As a minor point, some widely-used terms may

have to be better defined for the students. For example, one expert noticed that although laboratory procedures are very well taught, students did not know the "Good Laboratory Practice (GLP)" term.

The name of the study programme clearly reflects the learning outcomes as "Medical and Veterinary Biochemistry" clearly summarizes the fact that the students will obtain a training making them specialists in "laboratory investigations in the areas of diagnostics of human and animal diseases, to monitor environmental impacts, to control food and agricultural products ». Learning outcomes, content and qualification offered are fully compatible with each other.

2. Curriculum design

The curriculum is compatible with the requirements of the first cycle, level 6 studies (Bachelor), which are described in EU documents and legal acts that determine the general requirements for study programmes of Universities.

They are also in agreement with the global descriptor of study cycles and with the Lithuanian Regulation of Biochemistry Studies. Following the General Requirements for Study Programmes, the total of 210 credits are distributed as follows: 15 credits are allocated to general university subjects, 165 credits – to the study field subjects (15 of them are dedicated to Final thesis), and elective courses attract 15 credits. The study programme is comprised of seven semesters with 30 credits in each. No more than 5-6 subjects are studied in each semester.

During the site visit the experts' group has noted (not only for this particular programme) that the differences between the Lithuanian and general European system (3 years and 180 credits for a Bachelor programme, 2 years and 120 credits for a Master programme) leads to the fact that Lithuanian students in the end have different programme durations and credit numbers compared to their colleagues in other countries. This may make it more difficult for those students to participate in European Exchanges and/or to compete with other European students for employments or PhD programmes in the whole European Community.

The modules are spread among the various disciplines that are required for reaching a bachelor level. The general organization is well-described in Table 5 of the SER (page 11). They begin with fundamentals in biology, genetics, chemistry, mathematics and physics applied to biology. Then the disciplines become more specialized through the years with a wide variety of courses. In this respect the subjects and modules are not repetitive, are spread evenly and compose a multidisciplinary programme.

The contents of the subjects appear to be well in accordance with the type of Bachelor level they are aimed at. They are described in detail in the study plan provided in Table 6 of the SER (Page12). Basically contain fundamentals of sciences that have to be applied to biochemistry and biology (Chemistry, physics, basic biology and genetics, mathematics) and then continue into more specialized courses such as histology, molecular biology, cell biology, veterinary clinical biochemistry, pharmacology and etc. Laboratory training and Bachelor thesis are also included in the programme.

The contents and methods are appropriate for the intended learning outcomes as explained below.

As previously mentioned, the sequence of subjects in the programme curriculum from background scientific subjects to more specialized courses (see above) provides a strong base for efficient achievement of the learning outcomes. In addition, the curriculum bears a clear multidisciplinary aspect by involving different departments of the faculty (, which is a key feature for the intended learning outcomes. Finally, a serious effort has been aimed at implementing teaching methods specifically aimed at these students and that would differentiate

them from purely medical or veterinary students, or bachelor students from other biology related programmes. These include innovative practical courses using innovative teaching methods in a high tech environment, theoretical modelling, problem solving based teaching, individual presentations, and team work. Assessment methods, which are an important part of the teaching process, will be discussed further in the appropriate section of this report.

The scope of the programme is rather wide and covers an important set of subjects. Those are clearly required to train students who will carry out qualitative and quantitative biochemical analysis in diagnostic laboratories related to humans and animals. It is worth mentioning here also that the different parts of this wide scope are taught by the different departments of the faculty, ranging from language department to Physics/mathematics/biophysics, Biochemistry, Anatomy and physiology, analytical/toxicological chemistry, for example. Actually the scope might even seem a little ambitious as it covers a very wide area that goes from chemistry to genetics, bioinformatics, veterinary biology, or animal sciences. This ambitious programme may be very well suited for excellent student but might be a little too overwhelming for average students or students starting with particular lacks in some parts of the programme. Grouping several related courses in well-identified modules may help to organize the student's knowledge with respect to this very wide scope. The experts' group also identified that courses starting from different levels might be interesting for accommodating students of different levels and origins.

The content of the programme are complete and cover very well the different areas. At the Bachelor level it is difficult to emphasize the fact that a programme reflects the latest achievements in Science, as a significant part of the teaching time has to be devoted to cover the basics in different areas. However, the courses taught in Year 3 present certain advanced disciplines such as bioinformatics, genetically modified organisms and molecular biology that can contain latest achievements in Science for this level (SER Table 6 page 13). During the site visit, the experts could observe that the practical works are extremely well designed, taught with great care and provide state of the art, and sometimes very high tech materials and equipment. Also the teaching staff, which is highly involved in research, uses modern teaching technologies and has designed modern practical works that use very high tech equipment available for this programme.

3. Staff

Teacher qualifications are in compliance with the regulation of studies in biochemistry and the Teachers' workload is regulated by State and University legal acts. In fact it exceeds those requirements, as there are 37.74% of professors, and 22.64% associate professors. 75.47% are doctors of science and 11.3% are habilitated doctors in the study programme. Study field subjects are taught by 47 teachers, among them – 19 are professors, 12 associate professors and 11 lecturers.

The staff is well experienced with an average work experience above 20 years. The qualifications of the teaching staff (more than 75% are PhDs, see above), and their scientific activities of research are adequate to ensure the learning outcomes of the respective subjects (described in appendix II: Physiology, Biochemistry, Chemistry, Veterinary Medicine, Mathematics, Biophysics, Methods of Physico-chemical analysis, General and Molecular Pathology etc). The number of the teachers in charge seems also adequate: there is a total of 53 staff members for this programme which has about 20 students/year, so the ratio teachers/students is very high. Their research related activities are overall intense (see later).

As previously mentioned, the size of the staff is in very good adequacy with the

programme. One possibility of turnover is provided by the fact that the LUHS signs five years duration employment contracts. In case one or several teachers do not yield satisfactory results they may be replaced. This has not happened for this programme yet. It has to be noticed that turnover for teachers is a two-edged sword criterion, as a certain amount of stability is also important for ensuring the proper experience, detailed knowledge and continuity of the study programme. Based on teachers research activity, they can undergo abroad traveling, which is a way to gain international experience and to implement turnover (listed exchanges in Annex III state scientific visits in Universities from Spain, Germany, Denmark, Finland, Portugal, Poland, Austria or Sweden for example) Erasmus Exchange Programmes for teachers (between 3 and 7 teachers participate in these exchanges per year, see SER Table 8, page 17) are indicated in the SER both as already existing and also as area of improvement (SER page 28). The site visit confirmed that such exchanges are surprisingly sparse with respect to the high quality of the infrastructures and of the faculty in general. As well, the programme barely if never used invited professors.

The teaching staff appears to be engaged into improving their educational and professional qualification (28 courses, training and improvement programmes, SER table 7 page 17). Between 2008 and 2013, they have participated in 77 scientific international publications with an impact factor, some being in good international journals (such as Methods. Mol Biol, Cardiovasc. Pharmacol, J. Neurochem., BBA Bioenergetics etc). Noticeably, a significant number of teachers also participated in International Conferences in Europe and USA (68 for a total of 215 conferences). In addition, their CVs clearly show that they are well within the required field of expertise and are involved in research directly pertaining to their fields of teaching (see above).

Interestingly the University created a Center for Educational Qualification and Educational Competence, which provides different actions for education. Funds are also provided for travelling to obtain educational qualification in distant education centers.

4. Facilities and learning resources

Theoretical and practical activities take place at the University hospital campus (Eivenių str. 6), at the central building of the LUHS and at the campus of the Veterinary School. This double localization is due to the fact that the University Hospital Campus is at present undergoing a major renovation. This will yield top quality facilities for the programme, which already benefits from the already-finished new infrastructures. During the visit, the experts' group observed that the size of the premises was in good adequacy with the demand on both sites, especially since the teaching staff has given a lot of attention to this problem, and also because the students number is quite low. It has to be noted that in term, all studies will be regrouped on the medical Campus were a building is at present being completely renovated.

The teaching and laboratory equipment are more than adequate in size and quality: the students have access to very new, top quality and most modern equipment for their practical. This also includes for example interactive video material for cytology practicals as was demonstrated for the expert panel during the site-visit, all molecular biology, or analytical chemistry, cell fractionation, oxymetric spectrophotometers, chromatography systems and many other as such equipments. Computing facilities are also largely adequate.

The Medical campus has undergone very wide and impressive renovations that are at present still in progress. As a result a part of the students training is taking place in the medical campus while another part has been moved temporary to the somehow distant veterinary campus. In this context all possible arrangements have been made to optimize students practice:

courses are grouped per day on the two campuses to avoid any loss of time. In addition, despite being temporary, very important and successful efforts have been made by the teaching staff concerning the arrangements to receive the students at the Veterinary Campus: classrooms offer enough space for teaching and the practical courses installation are very satisfying.

In 2007, a very modern library and Health Sciences Information Centre was opened on the campus of University hospital. From the SER (Page 22), it contains 400 workplaces, 70 computers, three group (problem-based) learning classrooms, eight workplaces in a multimedia class, 12 places in a computer training class, seminar and conference rooms. Wireless Internet, self-service copying and printing, and free scanning is available at the library. This library is open weekdays from 7.30 a.m. to 10.30 p.m., weekends from 10.00 a.m. to 8.00 p.m. The experts visited the library in detail. In additions to the above-mentioned features, the library bears large open spaces, a cafeteria for students and displays an impressive space organization in a striking architecture.

This library is described to contain enough textbooks, teaching and methodical aids to ensure achievement of study objectives and learning outcomes of the study programme. As well, the resources of the university library are constantly renewed according to the needs of teachers and students. During the visit, several students however explained that they had experienced difficulties to borrow biochemistry, molecular biology or cell biology textbooks over a semester duration, which corresponds to their study cycles because these books can be only borrowed for few weeks durations. Students mentioned that some improvements have already been made at their demand. During the site visit the experts' group were shown the excellent computerized system for loans. However, for those textbooks, the loan duration had not been changed and was still short. It was explained that the student are allowed to borrow them several times if they intend to keep them longer, a procedure that would not function is someone else had reserved the book already.

5. Study process and student assessment

The main criteria for the admission of students to the MVB programme is based on the competitive grade for higher education (http://www.lamabpo.lt/) and on the rules described for Student Admission at the LUHS24 (SER Page 23). Although it is clear, and public, the experts felt that such a system does not take satisfyingly into account the fact that the same marks may not reflect exactly the same levels if students come from different origins. It also does not account for personal qualities such as interest or motivation, which elude such calculations.

This programme appears to be very attractive and to maintain a very high rate of selection as the number of applicants is in the range of 400-500 (SER ,page 23), the number of entrants being kept around 20. A quite large part of these accepted students would rather have preferred to be accepted directly in medical or veterinary studies, as about 3-4% ranked this programme as their first priority. However, the experts' group noticed that the students once within the programme were very satisfied and found it very original and distinct from other Bachelor programmes in Life Sciences. In 2011 and 2012, all entrants were admitted to state-funded study places. In the year 2013, among 23 entrants only three were admitted to state-funded study places, and 20 have chosen self-funded study places.

Taken together from the SER different sections and from the visit, it appears that the MVB programme is coherent and provides the necessary conditions for the provision of the programme and the achievement of its learning outcomes. The studies are scheduled for students spread in different groups. The schedule contains information about the study subjects, the occupation type, time and place. During the site visit, several students indicated that as the programme is new and multidisciplinary, several teachers from other departments had experienced difficulties

at targeting their teaching towards this group. Other teachers have taken the opportunity of this new programme to construct dedicated courses and learning methods. As the programme accepts students from different levels, particularly in English, which is mandatory, it might be worth introducing group levels as all students clearly did not get the same English level from high school.

The students can be involved in research activities since their first year but this becomes however more prominent activity when students are in the third and fourth semesters of their training for the Bachelor thesis. They can benefit from financial support through the LUHS Science Foundation. During the visit, the experts could observe that the laboratory spaces, installations and equipment offer an exceptional environment for the students to perform their research.

Support for research, practical training, and visits to conferences and participation in scientific events can also be received. Students can present their research in conferences of young scientists and their results are published in the conference proceedings.

The self-evaluation document provides information on the general conditions for students mobility in Erasmus programmes. It also very honestly states that *"In recently signed contracts, mobility of students of life sciences had not been envisaged"* (SER page 26). The fact that very few exchanges have been at present signed and were not operational for students of this programme (was confirmed during the site visit. This is surprising for an institution of such quality and detracts the students from broadening their perspective by participating to mobility programmes.

Academic support to students of the MVB programme is provided at an adequate level through various means, such as:

- Access to the dormitories (eight first year and 6 second year students);
- Access to sport complexes (SER page 27);
- Financial support under the form of scholarship and reduced scholarship fees as well as reduced fees for dormitories (SER page 26)'
- Information and personalized training where the problems can be analyzed and discussed during the training. Some departments have their own websites that contain parts that can be used for the students self-training;
- Information on the careers following the programme. This takes place under the form of LUHS career days as well as under the form of information posted on websites and visits to scientific events programmed by companies. This might be expanded to a large set of social partners as the programme is aimed at training biochemists that can operate in very different professional environments (Companies, University, Hospital, Veterinary clinics, Food or Water analysis…).

The assessment system of students is publicly available. However, this may deserve more details to be fully understandable: Table 6 of SER states the assessment strategy is mostly "examination" for the different courses. However, further in the SER, it is stated that each course is evaluated by a combination of Diagnostic, Formative and Summative methods, the summative assessment being not higher than 50% (SER page 27). As the programme is multidisciplinary with courses taught by completely different departments, for each course, the cumulative point structure of the assessment is defined by the department responsive of this particular course. At the end of each semester, examination sections are organized and the dates for examinations are précised and can be modified if requested by the students. The visit confirmed that the assessment method was indeed involving multiple examinations and that the precise procedure was specific to each department involved in the programme. This may lead in certain cases to

confusion for the students, as the term “assay”, which is widely used to designate written exams may not correspond to the same demand, depending on the departments.

No student graduated yet from this recently opened programme. Therefore, the question if professional activities of the majority of graduates meet the programmes providers’ expectations cannot be answered directly the present report. During the visit it appeared that most of the social partners were satisfied with the programme as it run. They also stated that they would better employ a student with a Master level compared to a Bachelor level. Conversely, most of the students of the present Bachelor Programme expressed their aim toward a Master after graduation.

6. Programme management

The programme management is described quite clearly in its administrative form (see below), however, how and at which level decisions were made locally and practically was not obvious from this description (SER page 28).

“The MVB programme is managed by the principle of vertical subordination. 1) The national level imposes laws adopted by Seimas, orders and directions of the Minister of Education and Science in accordance with legal acts of the EU. 2) The university level – the LUHS Senate and Rector apply laws adopted by Seimas, orders and directions of the Minister of Education and Science to studies in the LUHS. At the university level the LUHS Rector confirms the composition of the Study Programme Committee. 3) The faculty level of the MVB programme management includes the administration of the MF and Board of the Faculty. The Dean of the faculty is responsible for the implementation of resolutions and orders of the Senate and the Rector.”

The site visit provided a better view of the way the programme was managed day to day. Most professors are reactive for issues concerning their own course, and the Study Programme Committee (hereinafter SPC) is very efficient in reacting to the different demands of the students. This is done either by acting directly or by calling teachers meetings to discuss particular issues if the problem appears to be complex.

The MVB SPC includes subject teachers, professional training supervisors, a social partner’s representative and a student representative. This committee analyzes and discusses information relevant to the implementation of the programme of the MVB at least once a year. The SPC uses information from departments. As earlier mentioned, during the visit, the experts’ group found that this SPC is operating efficiently to gather information and implement the programme.

The results of internal and external evaluation of the programme are made public through the students committees and also to the external partners through the University website (SER page 31). This information appears also to have been widely used by the teaching staff in charge of the programme to adjust a large set of minor problems that appeared as the programme opened for its first year. During the visit it was also clear that the staff has been largely accessible to students’ direct solicitation, and was able to improve the programme with a high reactivity.

During the site visit, the committee could observe that students as well as social partners were strongly involved in the evaluation and improvement of the programme. They were both clearly aware that they could transmit remarks and propositions for improvement and that the teaching staff would consider them in a very serious manner.

The study quality assurance is under regulation by internal and external legal acts and is monitored by a Study Quality Assurance and Monitoring Committee (SER Pages 29-30). The fact that LUHS has established such a committee, which is well identified and operational, is remarkable. This committee aims at examining the internal evaluation of the study programmes, the cooperation between departments, the students-teachers collaborations, the lecturers' qualifications and different aspects pertaining to the quality of the programmes.

III. RECOMMENDATIONS

1. Implement Erasmus Exchange at higher level both for students and teachers

2. Harmonize the assessment rules as much as possible between the departments.

3. Make the relation clearer between the multiple courses and the learning outcomes, by creating packages of mandatory courses of the same discipline and of complementary elective courses

4. Introduce levels group in the English course as students coming from various origins may have very different durations of training in English.

5. Include more than one social partner in this committee as this programme has largely been build based on the social partners consultation and as important feedback might be expected following the graduation of the first students.

IV. SUMMARY

Main positive points:
The Self Evaluation Report is clearly written. It contains a large amount of useful information in the text, tables and annexes. The end of every section contains a synthetic analysis of strength and weaknesses.

This programme has been created de novo. It is based on an intensive reflection and consultation of social partners to formulate the aims and learning outcomes and to identify new need of the labour market.

All the practical aspects of the programme have been built from a large teamwork, with clear responsibilities allocated.

The programme is progressive and multidisciplinary. It involves a large set of different departments.

The identity, originality and the learning outcomes of the programme appear to be very clear for its Bachelor students.

The equipment, and the different facilities are excellent, of course in the medical campus which offers spectacular installations but also in the temporary settlement at the Veterinary campus, where a strong effort of the teaching staff allows very good studying conditions.

The level of teachers both in research and teaching is very good

The excellent implication and reactivity of the majority of the teaching staff to implement the programme following students' feedback.

The strong interest in the programme from the social partners of various professional sectors (hospital or veterinary laboratories, national food, companies, biotechnological industry and etc.) both at the origin and follow up of the programme.

Points for Improvement:

For such a programme with such excellent facilities, there is the surprisingly low number of Erasmus exchanges that limits both student and teachers mobility.

The list of both mandatory and elective courses appears quite long enumerative. It does not contain packages or modules of courses to clearly inform the students of which combination is useful for which learning outcomes.

Based on the job market, the programme elective courses in relation with professional learning outcomes (e.g. risk assessment, quality insurance, laboratory operational procedures etc.) may appear too limited.

Some minor difficulties persist due to the newness and the multidisciplinary nature of the programme. Several professors who are used to teach medical or veterinary students seem to be not fully informed of the philosophy of this programme which is aimed at non-medical students. This reflects in the quality of teaching, and also in the nature of the students assessment, which is not always clear for them. Finally the operation of the library, especially the time of loans, is still more aimed at medical students than at the biochemistry students of this programme.

V. GENERAL ASSESSMENT

The study programme Medical and veterinary biochemistry (state code – 612C74001) at Lithuanian University of Health Sciences is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	4
2.	Curriculum design	3
3.	Staff	4
4.	Material resources	4
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	4
	Total:	**22**

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

Grupės vadovas:
Team leader: Prof. dr. Laurent Counillon

Grupės nariai:
Team members: Prof. dr. Meza Trine Johanson

Prof. dr. Christoph Griesbeck

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Santraukos vertimas iš anglų kalbos

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V. APIBENDRINAMASIS ĮVERTINIMAS

Lietuvos sveikatos mokslų universiteto studijų programa *Medicininė ir veterinarinė biochemija* (valstybinis kodas – 612C74001) vertinama teigiamai.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	4
2.	Programos sandara	3
3.	Personalas	4
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	4
	Iš viso:	**22**

* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 - Labai gerai (sritis yra išskirtinė)

IV. SANTRAUKA

Pagrindiniai teigiami dalykai:
Savianalizės suvestinė aiškiai parašyta. Jos tekste, lentelėse ir prieduose pateikiama daug naudingos informacijos. Kiekvienos dalies pabaigoje pateikiama išsami stipriųjų ir silpnųjų pusių analizė.

Tai nauja programa. Ji pagrįsta aktyviomis diskusijomis ir konsultacijomis su socialiniais partneriais, siekiant suformuluoti tikslus ir studijų rezultatus bei nustatyti naujus darbo rinkos poreikius.

Visi studijų programos praktiniai aspektai yra didelės grupės, aiškiai pasiskirsčiusios atsakomybę, darbo rezultatas.

Studijų programa progresyvi ir daugiadisciplininė. Ji apima daug skirtingų katedrų.

Bakalauro studentai labai aiškiai supranta studijų programos tapatumą, originalumą ir studijų rezultatus.

Įranga ir įvairūs ištekliai yra, žinoma, puikūs ne tik medicinos padalinyje, kuriame siūloma įspūdinga įranga, bet ir laikinose patalpose Veterinarijos akademijoje, kur didelėmis dėstytojų pastangomis sukuriamos labai geros studijų sąlygos.

Studijų kokybės vertinimo centras

Dėstytojų ir tyrėjų lygis – labai aukštas.

Dauguma dėstytojų yra labai įsitraukę į studijų programą ir greitai reaguoja į studentų atsiliepimus dėl jos.

Socialinių partnerių iš įvairių profesinių sektorių (ligoninių arba veterinarijos laboratorijų, valstybinių maisto tarnybų, įmonių, biotechnologijų pramonės ir pan.) susidomėjimas studijų programa didelis ir sudarant, ir vykdant studijų programą.

Tobulintini dalykai:
Stebina tai, kad tokios studijų programos su tokiais puikiais ištekliais studentų dalyvavimas *Erasmus* mainuose yra neaktyvus, o tai riboja ir jų, ir dėstytojų mobilumą.

Privalomųjų ir pasirenkamųjų studijų dalykų sąrašas yra gana ilgas. Nepateikiami studijų dalykų paketai arba moduliai, kad studentai būtų aiškiai informuoti apie tai, kokie deriniai reikalingi konkretiems studijų rezultatams pasiekti.

Sprendžiant iš darbo rinkos atrodo, kad studijų programoje per mažai pasirenkamųjų dalykų, susijusių su profesiniais studijų rezultatais (pavyzdžiui, rizikos vertinimas, kokybės užtikrinimas, laboratorijų vidaus darbo tvarkos taisyklės ir pan.).

Nedidelių sunkumų vis dar kelia tai, kad studijų programa yra nauja ir daugiadisciplininė. Keli profesoriai, kurie yra įpratę dėstyti medicinos ir veterinarijos studentams, atrodo, nėra visiškai informuoti apie šios studijų programos, kuri skirta ne medicinos studentams, filosofiją. Tai veikia dėstymo kokybę ir studentų vertinimą, kuris ne visada jiems yra aiškus. Galiausiai bibliotekos veikla, ypač knygų skolinimo laikas, vis dar yra labiau orientuotas į medicinos, o ne į biochemijos studentus, studijuojančius šioje studijų programoje.

III. REKOMENDACIJOS

1. Aktyviau vykdyti *Erasmus* studentų ir dėstytojų mainų programą.

2. Kuo labiau suderinti vertinimo taisykles tarp katedrų.

3. Aiškiau apibrėžti ryšį tarp įvairių studijų dalykų ir studijų rezultatų sudarant tos pačios disciplinos privalomųjų studijų dalykų ir papildomų pasirenkamųjų dalykų paketus.

4. Įvesti pagal lygius suskirstytą anglų kalbos kursą, nes įvairūs studentai anglų kalbos mokėsi nevienodą laiką.

5. Įtraukti daugiau kaip vieną socialinį partnerį į programos komitetą, nes ši studijų programa daugiausiai grindžiama konsultacijomis su socialiniais partneriais ir po pirmosios studentų laidos baigimo iš jų galima tikėtis svarbių atsiliepimų.

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