STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VYTAUTO DIDŽIOJO UNIVERSITETO

BIOLOGIJOS (612C10003)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF BIOLOGY (612C10003)

STUDY PROGRAMME

AT VYTAUTAS MAGNUS UNIVERSITY

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### INFORMATION ON ASSESSED STUDY PROGRAMME

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I. INTRODUCTION

This report is prepared by an Expert team assigned by the Centre for Quality Assessment in Higher Education of Lithuania (SKVC) for evaluation of the Bachelor degree programme of Biology at the The Vytautas Magnus University (further VMU). The team consists of five persons:

- Trine Johansen Meza - Senior Scientist of the Department of Molecular Biosciences, University of Oslo, Assistant Deputy Director General, Department of Quality Assurance NOKUT;
- Aleksandar Jovanovic - Professor, Department of Endocrinology, Medical Faculty, University of Pristina/K. Mitrovica, Serbia, EC Academic expert, HERE project;
- Laima Ivanovičė – Professor, Kaunas University of Medicine, Lithuanian University of Health Sciences, Biochemistry Department, Head of Department;
- Tonis Karki - Associated Professor and Senior Researcher at the Department of Microbiology, University of Tartu, Faculty of Medicine;
- Tadas Juknius - student representative.

The Self-Evaluation Reports and the additional documents were delivered to the evaluation team in due time. At the 17th of September 2013 the evaluation team performed a site-visit to The Vytautas Magnus University and met the management, self-evaluation report writing team, teachers, students, alumni and social partners according to the evaluation procedure.

The self-evaluation report contains a detailed overview of the programme and the content of the programme, but the structure of the report is lacking consistency in several parts and is thereby difficult to follow, this will be elaborated upon later in this report. Despite the difficulties with the self-evaluation report the expert panel has done an evaluation based on the self-evaluation report and the interviews preformed.

II. PROGRAMME ANALYSIS

I. Programme aims and learning outcomes

The Bachelor degree study programme of Biology at The Vytautas Magnus University (further VMU) is organized by the Department of Biology at the Faculty of Natural Sciences (herein FNS). According to the self-evaluation report of the university, the Bachelor programme of Biology at VMU is designed to train qualified specialists with research skills who can successfully work in research and practice of science education, science, technology, business and social areas or systems (self-evaluation report, p. 5).

The Programme aims for the Biology Bachelor program are defined in a very broad sense. Aims are defined at several levels – at University level (very generally) and at study field level. At the study field level, there are two distinct statements on the aims of the Biology programme. In the first of them “To deepen competencies in plant and animal biology, biophysics, genetics, biochemistry, immunobiology, microbiology and other subjects essential for an advanced level of molecular biology specialist” (paragraph 16, statement 1), there is a disagreement between the programme title and the aim proposed. Due to this, it becomes unclear what the programme aims

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actually are. It is the evaluation committee’s opinion that the university should formulate one clear aim for the programme taking into account the most important aspects of the aims and the purpose currently stated for the programme.

According to the self-evaluation report (SER, page 7, paragraph 22), the learning outcomes (LO) of the programme have been defined by taking into account the corresponding international and local directives and documents, and are stated to be on level 6 according to the Lithuanian Qualification framework (LTQF). The evaluation committee does not agree upon this statement however, due to several facts. The learning outcomes of the study programme are formulated as knowledge, practical skills, cognitive skills and transferable skills. Bloom’s taxonomy is not applied, and the LO are thereby not written as learning outcomes. For example, one of the learning outcomes (learning outcome A3 in SER, p 8) in the category of knowledge is written in the following way: “Knowledge of physics: mechanics, molecular physics, electricity, electromagnetic waves, optics”. A learning outcome should be formulated on the basis of what a person knows, what a person can do and is capable of doing as a result of a learning process, and in the example above, this is not the case. As explained above, the learning outcomes of the programme (SER, Table 3, pg 8), are divided into knowledge, cognitive skills, practical skills and transferable skills, while the categories in EQF- are knowledge, skills and competences. The LTQF are not divided into the aforementioned categories, but the institution has chosen to divide the learning outcomes into such categories it is important that the learning outcomes are assigned to the correct category. For example, some of the current learning outcomes stated in the category of practical skills, are actually knowledge, for example the learning outcome “Understanding of the new and the most significant problems of biological research and development” (learning outcome C1 SER page 8) is actually knowledge. When rewriting the learning outcomes for the Biology programme, it is important that the university uses the LTQF, to assure that the learning outcomes formulated are on the correct level and covers LTQF.

The committee is of the opinion that the learning outcomes of the courses generally are better than the learning outcomes of the programme, for example the learning outcomes of the course Developmental Biology (annex P1, page 106). In the aforementioned and other well written course descriptions, LO indicate what a graduate is intended to to know in context of a subjects, be able to do and etc.

The self-evaluation report states that the learning outcomes of the programme are assessed every two years according to the “VMU Teaching Quality Assessment Policy” by The Study Programme Committee, consisting of Programme teachers, social partners, students and alumni (SER, page 11). During the site visit, however, the interview with the teaching staff made it clear that the teachers have not been involved in formulating the learning outcomes on the programme level and that this had been performed by the self-assessment group. The teachers have training in formulating learning outcomes. Due to that they have taken courses given by the quality assessment office. The evaluation committee thereby strongly recommends that the teachers are more involved in formulating the learning outcomes of the programme when these are rewritten.

There is no information about accessibility of Programme aims and learning outcomes neither at University nor State levels in the SER. During the site visit, the evaluation committee received information about the spread of this the programme aims and learning outcomes at VMU level and The State level: „Open door“ days at VMU and exhibition of higher education institutions in main cities of Lithuania.

Formulation of the aims of Biology programme is based on The Regulation of Biology Study Field, however, with free interpretation, as there is no indication about work of biologists in

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areas of biochemistry and biotechnology in the Regulation. Public and market needs for graduates of the Programme are not identified in the self-evaluation report. The matches of LO for academic requirements are analysed on bases of LO of another study programme (Paragraph 24, Molecular Biology), therefore this relation it is not clear. To the expert panel’s knowledge, the Molecular Biology programme is given at the university and is at the Master level (http://www.vdu.lt/en/studies/degree-studies/).

As previously explained the LO for the study programme are ill formulated as they are not written as true learning outcomes. The consistency to the type and the level of studies can only be indirectly assessed by taking into consideration the different subjects given in this study programme, which have more well defined LO as explained above. By doing so the expert panel finds that the study programme will give the students a qualification that corresponds to the 6th qualification level. VMU has to write learning outcomes for the study program and in this process assure that they correspond to the 6th qualification level and that the contents of the study program aligns with the learning outcomes for the study programme.

2. Curriculum design

The Programme scope is 240 ECTS credits which are distributed within 8 semesters. The numbers of credits per semester is variable (from 28-32 ECTS credits). Per one academic year the number of credits is not more than 60 ECTS credits. ECTS credits ratios for study field-related study-subjects, general university study-subjects, and practice, are 180:40:20. Therefore one may conclude that by the scope and credit allocation the programme meets legal requirements (Order No. V-501 of the Minister of Education and Science of 9 April 2010 “On approval of description of general requirements for degree providing first cycle and integrated study programmes” of 9 April, 2010.; Regulation of Studies in Biology, approved by the Minister of Education and Science on 27 July 2008. No. ISAK-2292).

The Programme design is subject-based. In each semester, up to 7 subjects are offered to students. The numbers of credits differ in each semester, therefore students experience different work load. The elective subjects also contain different credit-numbers, so that there are very limited options to make an appropriate credit-number per semester. In the study plan (page 15-16 of SER), there are Elective subjects (free) designed in 3rd, 5th and 6th semester. There is no explanation what subjects fall into the category of free elective courses, and how students choose them. During the site visit, the information about particular free-elective causes and mechanisms of the courses options by students were also not disclosed. In spite of the disadvantage with the credit numbers, the free elective courses make the curriculum flexible and ensure horizontal mobility of students between different study programmes which are positive and in alignment with the Bologna process.

The Programme encompasses 31 compulsory study-subjects and 21 elective ones (General university part – 5 compulsory and 6 elective courses; Study field part – 24 compulsory and 15 elective courses). There are 2 subjects named as the term-papers, 1 and 2 designed for development of skills required for scientific paper writing. In the SER, study-field courses are classified as the programme essential courses and the courses of a Special part of the programme. This classification is ambiguous, as a Special part of the programme contains only elective courses. Descriptions of study-subjects are presented in the Annex 1. The quality of the descriptions varies considerably. For example, in the description of the course Physical and colloidal chemistry (BBK 3003, p.58), criteria of learning achievements evaluation states that "Student will able to identify anode and cathode of electrochemical element". The statement is not understandable in terms of what is supposed to be evaluated. In the Biochemistry course description (BBK3001, p.60), criteria of learning achievements evaluation are presented as small...
topics of the course. The cause is evaluated by summative way in which structure contribution of labworks is as high as 25%. However, this contribution is not reflected in criteria of learning achievements evaluation. Basic biotechnology and bioinformatics (BIO4005, p.111) criteria of learning achievements evaluation contains biotechnology and bioinformatics related statements and those of ecology and behavioral adaptation of animals. Although some descriptions as the aforementioned are inaccurate, contents of the study subjects contribute to development of 1st cycle university studies in Biology field. Contents of the subjects contribute to comprehensive understanding of theoretical and practical aspects of biology. Generic competences are also being developed during learning of study subjects.

In the self-evaluation report, the alignment of the learning outcomes of the programme and the individual study subjects are given in a table (SER, table 4, pg 9). This table is however inaccurate as there are five different learning outcomes stated under knowledge in this table, compared to four in the table that states the learning outcomes on the programme level (SER, table 3, pg 8). Due to the inconsistencies in the tables, it is difficult to use the information given to analyse if the subjects are linked to the learning outcomes of the programme. The learning outcome A3 given in table 3 is “Knowledge of physics: mechanics, molecular physics, electricity, electromagnetic waves, optics”. This learning outcome is stated in table 4 to be achieved in the subject Plant biology practice (course name ‘Field work in plant biology’, code BIO 1003) which from the detailed description of the subject content given in Annex P1 page 161 does not give the students any competencies as stated in the learning outcome. Table 4 does not state which subjects are compulsory and optional, such information is important for evaluating if the content and methods of the subjects/modules are appropriate for the achievement of the intended learning outcomes. The majority of the study subject descriptions are presented in a subject-centred way without link to study programme intended LO. There are some study subject descriptions (for example the subject description for the course General Genetics – course code BIO 3005, page 95 annex P1) that have been given links between course outcomes and criteria for learning achievement evaluation. It is however not consistent between the study programme learning outcomes stated here and the ones given in the SER (Table 4, paragraph 26). As the links (if any) between LO and study subjects are confusing (Table 4, paragraph 26), it difficult to evaluate relevance of the subject-contents to development of intended LO.

The study-subject descriptions (Annex 1) give enough information about teaching and learning methods which seem appropriate for Biology study programme. The practicals of Biotechnology and bioinformatics, however, are insufficient for this kind of study-subjects (the description of this study subject is prepared in inaccurate way). The description contains certain remnants form another description – the column “criteria of learning achievements evaluation” contains biotechnology and bioinformatics related statements and those of ecology and behavioral adaptation of animals. In the same column, course designers state that “Applied basic biotechnological principles, methods and models to optimize food production, evaluate effectiveness of biotechnological components” are criteria for learning achievements evaluation. This criteria seems to be practically oriented, however this is not supported by relevant laboratory works. Although, there is 33% contribution of practicals to final assessment, there are no criteria of the assessment of practicals in the description. Methods of evaluation of student-achievements are based on the principle “read and reproduce”. Innovative methods of evaluation would be more convenient in the case.

The general scope of the programme, teaching and learning methods and a big contribution of practices indicate that the programme is sufficient for education of biologists skilled in contemporary molecular methods of investigation and capable to solve biological problems on the Bachelor level. However, intended LO and LO-related descriptions of courses have to be developed with great priority.

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Although the design of Biology study programme is rather classical, there are enough modern subjects. Their contents are based on new scientific facts, which is very positive. In the practical part subjects, up-to-date methods are employed for student teaching and practicing. This shows that the content of the programme reflects the latest achievements in science and technologies. Such subjects include Neurobiology, Evolutionary and Population Genetics, Basic Biotechnology and Bioinformatics etc. Specific problems of the Biotechnology part in Biotechnology and Bioinformatics subject have been mentioned above.

3. Staff

The staff involved in the programme is composed of 30 teachers who all are holding a doctoral degrees and are hired on the principle of public competition (SER, page 19, paragraph 41). 30% of biology-field subjects are taught by professors, 37% - by associate professors, and 33% by lecturers (doctors of sciences). According to the National regulation of biology study field, half or more of study-field subjects have to be provided by experienced professors or assistant-professors. Formally, the Programme meets this requirement (professors and assistant-professors make 67 % of teacher-staff).

Teachers affiliated in the Programme are experienced in both teaching and research. This is of high importance for successful teaching of biology-field subjects and supervision of Bachelor thesis preparation. In the programme, this requirement is met as biology-field subjects are provided by highly qualified teaching staff – almost all teachers are habilitated doctors and doctors of sciences. Majority of them are experts in the field of specific study subject. Two of the teachers were awarded by National prizes for their scientific works. However, there are no experienced specialists in Biotechnology. This conclusion comes from the biotechnology teacher’s CV description.

Although intended LO are ill-defined, all study-subjects are taught by qualified teachers. The teachers of courses are specialists in specific research areas which are of high importance for development of practical skills of students in specific areas of biology. As the programme aims are to develop practical skills, students attend laboratory works (practicals) in small groups (about 10 students in a laboratory), therefore teacher:student ratio in practicals favour development of laboratory work skills and abilities. A number of teachers are involved in the preparation of bachelor thesis, which occurs under supervision of a sufficient number of teachers – from 5 till 8 theses are supervised by one teacher. In lectures, the ratio is less important. Therefore one may conclude that the number of the teachers is sufficient in the broad sense.

The main causes of teaching staff turnover are described in the SER (paragraph 47). Amongst 11 teachers of the main study-subjects onle 1 is at a leave Although the period after the recent accreditation covers 8 years (2005-2013), turnover of teachers is analysed within a 3 year period (2010-12) in SER. However, it is positive, that a number of young scientists are involved in teaching. One may be proposed - that teaching staff turnover is convenient during the accreditation period.

Professional development of teachers is analyzed in the section of study process. Data about teaching staff mobility covers only 3 year period – year 2010-2012. According to the information provided, from 15% till 35% of teaching staff took part in LLD/ERASMUS staff exchange programme within the period. This percentage favours professional development of the teaching staff. Other ways of teaching staff promotion at the university is not described in SER. During the site visit it was found out, that teaching staff can attend conferences using support from reseach projects which is personnel run projects. A set of measures for promotion of
professional development of teachers was discovered during the visit to VMU. The university regulates teachers’ workload and creates possibilities for one year-visit to overseas universities. During the meeting with teaching staff it was found out that prof. Satkauskas used two long-term leaves for his scientific work in Neurochemistry Center, Strasbourg, France and Institute Gustave Rousy, Paris, France.

Information about participation of teachers in R&D activities is available in individual CV descriptions. According to CVs, almost all teachers of the programme are involved in a broad spectrum of scientific investigations. They take part in national and international projects both as participants and as leaders. Fields of their research correspond to a field of a study-subject taught. Within the 2010-12 year period teachers of the programme published more than 159 scientific articles: 59 in journals were included in ISI Master Journal list and more than 100 in other reviewed journals. Information about papers published in journals with citation index is available in CVs descriptions. This information is neither analysed nor summarised in SER.

4. Facilities and learning resources

The Faculty of Natural Sciences is located together with the Faculty of Informatics in a separate building, which was substantially reconstructed in the last decade. Participation in national and international programmes and projects has contributed to pronounced development of the Faculty of Natural Sciences at VMU. Infrastructure essential for development of Biology study programme was substantially renewed in the period 2005-2008. New well-equipped laboratories have been created. Students of I and II cycle study-programmes, PhD students and researchers can use the same equipment. Therefore the Biology programme students have good opportunities of practical skill mastering. Although laboratories are not large in size, regulation of a student number in a group can assure optimum conditions for practicals. Common facilities (auditoria and seminar rooms) are also suitable for their purposes.

In laboratories, equipment is present in numbers sufficient for 10-12 student (the number of student per group) work. In the interviews with students it was stated that the students wished more space for the laboratories. But since the laboratory size is matched with the student number per group it is the expert panel’s opinion that each student can develop skills of practical work. Most of the equipment is either new or obtained from other European universities as charity-gifts. The unique equipment can be used under teacher or researcher supervision. Availability of IT technologies for the programme needs is not described in the SER. Availability of advanced IT are given for Molecular Biology and Biotechnology study programme (SER p.24 paragraph 65). One may expect that students of Biology study programme can also use these ITs. However, this fact was not mentioned during the visit, but the expert panel was shown computer classes.

Practice I, II, and III are distinct study-subjects in the study plan of the Biology programme. Besides them, there are two term-papers attributed to the category of practices. Botanical garden as a unit of VMU is a base for Practice I (Plant biology practice). Practice II (Animal biology practice) is a field-oriented practice. Special biology practice is research-oriented practice which takes place in research laboratories and other research institutions. These institutions act as social partners of a programme. The idea to implement writing of scientific papers in the curriculum of Biology programme is very positive. Contents of Term paper I and Term paper II are not clear from the self-evaluation report, however. Description of term papers is not given in the Annex I, although the codes are included in the table of the annex. During the visit to VMU it was found out that these papers contribute to bachelor thesis, which the expert panel finds positive.

The main library of VMU is located in another building of VMU. Faculty of natural sciences has only a reading room, which has few textbooks and periodic publications for local use. VMU has

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well organized intranet system, which allows wide access to data bases and teaching materials from university buildings and dormitories. Some information sources are also available via internet. However, there are some study-subjects taught without required number of textbooks at Library (e.g. in the description of Basic Biotechnology and Bioinformatics recommended readings include a single copy of textbooks). The students also commented in the interview that they would like newer books, as the old books are in Lithuanian but the new books are only available in English, and this makes it hard for the students as they think that the nomenclature is difficult in English.

5. Study process and student assessment

Admission of students to VNU is regulated by the State and the University laws, rules and other official documents. Admission is organized by The State level organisation, The Council for general student admission of Lithuanian high-school association. Regulation of the study process of the programme is described by the regulations at 3 different levels: the state level, the university level; the FNS and department level. The state funded places in the study programme are assigned to persons who were selected into the state-wide queue of the best school graduates. The structure of the contest mark for Biology study programme and other programmes is presented in the Order of the Minister of Education and Science of Lithuania. Principles of the contest mark calculation are officially disclosed almost a year before student admission. The principles of student admission to Biology state programme are clear and transparent. However, the description of the contest mark structure is unclear. In SER, the exams of biology, chemistry and Lithuanian language are required. According to the official website of VMU, biology, Lithuanian language, chemistry or mathematics is required (http://gmf.vdu.lt/studijos/bakalauro-studijos/biologija.html). Analysis of the contest marks of entrants is based on the last three-four year data. Moreover, Biochemistry as the study programme is pointed out in terms of student’s admission (SER p.26, paragraph 76). Analysis of the number of entering students is provided in SER p. 29, tables 11 and 12. The tables are confusing as the numbers of entrants differ (e.g. the number of students is 56 in the year 2011 and 45 in the year 2010 according to the table 11, but in the table 12 these numbers are 40 and 40 respectively (?)). Such mistakes are not only confusing, they make the analysis unreliable.

According to the information provided in SER (p.24, paragraph 61) and information about practical parts given in descriptions of study-courses, investigation methods require well organized provision of laboratories with unique materials and consumables. This fact leads to the conclusion that organisation of study process as a whole and practical’s in particular, is well organized and ensures an adequate provision of the programme. However, the link between the organisation of the study process and the achievement of intended LO is only predictable, as LOs are ill-formulated.

Information about how students of Biology study programme are encouraged to join into research was obtained during the visit to VMU. Preparation of the term paper I (1st study year) is a condition of early contact of students with research. Students are permitted to choose suggested topics of papers. Supervisors of the term papers become supervisors of their research and Bachelor thesis. This way of student motivation is reasonable. Active students have opportunity to participate in conferences and publish scientific papers in local or international journals. This is a great stimulus of their research interest. Because of early implication into research students become co-authors of scientific papers even before their Bachelor thesis defence. The university supports students with equipment, materials, and compensates travel fees to conferences.
The SER states that “the Biochemistry (?) Programme is running only 3rd year, none of the students used mobility possibilities to go for studies abroad yet” (p.29, paragraph 93). No more information about mobility of Biology students is provided in the SER. This indicates a poor attitude of the self-evaluation group towards student mobility affairs. During the site-visit, however it was found that the ERASMUS student mobility programme is the most popular amongst Biology study programme students – from 4 to 6 students from the Biology programme uses the possibility for exchange each year. Universities of Turkey, Netherlands and etc. were places of the visits. The reason for the fact that these places were the most popular is that they offer subjects that fit in the scope of the Biology programme.

VMU carries out a broad spectrum of student support measures. Academic support for the students in the Biology programme is provided by teachers directly and in virtual environment via FC system, Moodle system and e-mail. In virtual environments, students receive learning materials, hand-outs, information about teaching activities, information about personal academic progress etc. In a University-regulated way, teaching staff also provide large scale of face-to-face consultations to the students. Because of comprehensive academic support, VMU is known as a student-friendly university. Social support of students is achieved via a system of scholarships, provision of students with dormitories, subsidies for studies and living. These ways of social support are controlled by VMU Office for Student Affairs. Students are also supported indirectly by the University: regulation of student work-load favours for student employment in the departments as part-time technical assistants. Other places of their extra-class job are also available.

The system of the assessment of student achievements is based on the law, orders and other regulations at the State and the University levels. The evaluation is described by 10 point ranking system. This system is common for Lithuanian universities. In descriptions of study courses, a course specific assessment system is provided. The information about course-specific assessment is not always clear enough from the subject descriptions given in the SER. For example, in Statistics in Environmental and Biology, course code MAT2012, the assessment criteria given is actually the main fields of the study-course; the same holds for Molecular Physics and Optics, course code INFN2008, as well as for Professional Language of Natural Sciences, course code LGF2002. In some study courses descriptions, criteria of student assessment are not identified at all (e.g. General Genetics, course code BIO 3005 and Microbiology and Basic Immunology, course code BBK3010, give subject-specific LO as a criteria of assessment). In study subjects with a wide scope of practicals, assessment is based on testing of theoretical knowledge by the principle “read and reproduce”. In study subjects with a wide scope of practicals, the assessments of practicals make up to 33% contribution to the final assessment. Preparation and writing of the Bachelor thesis is regulated at the University level. This is proved by the orders. Biology field Bachelor thesis preparation, however, is regulated by respective document from another study field (Molecular biology and biotechnology?, reference 37, p.33). Therefore, one may assume that principles of student assessment should be revised by the Study programme committee.

Valuable information about study field related employability of graduates was obtained during the site visit. Some of the graduates decide to start working after graduation from the Bachelor programme. The majority of alumni of the Programme reported that II cycle studies were of the biggest priority after the first cycle of Biology study programme graduation. This is also stated in the SER: more than 41% of graduates of Biology Programme choose Master studies in 2007-2012. In general, alumni who have chosen II cycle studies are satisfied with their Bachelor degree in Biology. However, they point out that their education is highly theoretical. The same opinion was expressed by those working in diagnostic laboratories. The students also expressed a
wish of more laboratory work in the curriculum. This is a good point for further development of
the programme with a focus on improvement of practical abilities of students.

6. Programme management

Sharing of responsibilities of the Biology study programme management is defined in the SER. The Biology Study Programme Committee, Department of Biology, Faculty of Natural Sciences and Faculty Board are the main units of the Programme administration. The Study Programme Committee is the main steering body in the programme management. The committee collects, presents and discusses all the information about possible shortcomings of the Programme and recommendations for its revision to the Department of Biology. The department of Biology organises changes in the Programme. Proposed changes are approved by the dean of FNS and the Faculty Board. In the case of Biology study programme the chairmen of the Committee is also the head of Biology department. This is helpful for implantation of changes in the Programme. On the other hand, as stated in other parts of this report, the self evaluation report is of poor quality, making the evaluation of the study programme challenging. During the site visit the expert panel met the SER committee and during the interviews with this committee it became clear to the expert panel that only one person was actually responsible for writing the SER. During the site visit is also became clear that the programme management mainly was performed by one person. The expert panel finds that this is problematic, and thinks that the university has to go through the programme management and ensure that the responsibilities as stated in the SER actually are functioning properly.

According to the SER, the Programme committee organises assessment of the Programme one time in a year. However, this principle is faintly applicable, as during the visit to VMU it turned out, that the teaching staff was not informed about the needs and principles of intended LO formulation and their comprehensive application in the study process. Insufficient cooperation between University units implicated in implementation of the programme is seen from poorly standardized descriptions of the study programme. During the visit to VMU, it become apparent that teachers were not enough instructed about how to write good study-course descriptions. There is a lack of links between the LO of the programme and the methods of assessments are also badly identified. This shows that the teachers need to get support for subject description preparations. The expert panel mean that this lack of cooperation is reflecting a poor program management.

Recommendations on the Programme improvement done within the previous accreditation reviewers were extensively analysed and implemented for renewal of the study programme – the study plan was revised and corrected according to recommendations; contributions of practicals to the curriculum of the programme were increased. Internal quality assurance of the Programme is carried out at the University level and at the FNS level. Although it is stated in the SER, that the periodical assessment and update of the Programme (aims, learning outcomes, assessment, content, teaching methods, etc.) are the main instruments for addressing quality issues of the Programme (see p.35 paragraph 126), this proposition is not completely implemented in the real academic life. The intended LO are written without referring to Lithuanian Qualification Framework and formulations of LO were not discussed with a teaching staff and student community. This shows that outcomes of internal evaluation give insufficient impact into the programme development. During the site visit the expert group found out that the community of FNS was not familiar with the Final version of the self-assessment report. This fact let the evaluation committee to propose that collaboration between the administration of the faculty and the community is not sufficient.
The Programme has good links with social partners. Four representative of social partners arrived to the meeting with experts of this external evaluation. The social partner representatives have contacts with students of Biology study programme. Therefore, they could provide important information about the programme graduate competences required for labour market. However, the benefits of this collaboration are not effectively used in the process of the programme improvement and in formulation of LO particularly. At the meeting of the evaluation committee with social partners, all the deputies of social partners pointed out on great demand of development of practical skills of students during the study years. They were satisfied with students theoretical knowledge.

A wide spectrum of internal quality assurance measures is developed at VMU. The procedures, methodology and responsibilities for teaching quality monitoring and assurance are regulated by The VMU Teaching Quality Assessment Policy. Within Biology study programme, regulations of VMU Teaching Quality Assessment Policy are executed effectively: teaching staff were involved in cooperation and consultations when they prepared descriptions of the study subjects (there is no overlapping of topics in descriptions etc.). Teaching staff keeps feedback records concerning progress of teaching process within a study subject. Students feel free in their opinion expression towards teaching of certain study subject. However, links between the administrative board of the study programme from one side and teachers staff from another side are expressed with certain precautions. One may be propose, that cooperation between different members of study quality assurance system is favourable for quality assurance.

III. RECOMMENDATIONS

1. The university had to compose intended learning outcomes for the study programme following the requirements of the Lithuanian qualification framework (LTQF) and the European qualification framework (EQF).

2. To compose descriptions of study subjects adequate to new intended learning outcomes.

3. Although the majority of VMU students have good skills in English, they also need to have teaching material in their national language. This would be helpful for achievement of learning outcomes for those who are not so advanced in English. As VMU possesses well developed system of e-learning, teaching material can be published in different formats.

4. VMU has to go through the programme management, and assure that the responsibility is actually shared by several persons to make the programme management more robust.

5. Vytautas Magnus University possesses a system of internal quality assurance. The system needs more attention of the Biology programme committee in order to improve internal management of the programme. The study programme committee (SPC) has to identify criteria for evaluation of internal assessment of study quality. Full action plan about activities of SPC has to be developed. Decisions of the SPC should be implemented in study process management.
IV. SUMMARY

The evaluation committee’s opinion is that this is a good biology programme with good scope. The concept of block of subjects is positive. The laboratory facilities offered to the students are good. The programme has shown good transfer between areas, and it is a good cooperation with laboratories outside the university. The committee likes the concept of term papers and Bachelor thesis. Cooperation between the students and teachers is good and students feel included in the study and research processes. The teaching staff is adequate for the programme. Learning methodology is adequate; there is a student-centred learning in place and the use of the modern teaching equipment is positive.

Student’s survey mechanisms should be diversified and used more for improving the programme. The career planning needs improvement. As stated throughout this evaluation, the learning outcomes are not formulated enough and not promoted. The learning outcomes need to be rewritten and the course descriptions have to be revised to ensure that the learning outcomes of the programme are aligned with the subject specific learning outcomes. The cooperation with the industry, society and business are not extensive enough.
V. GENERAL ASSESSMENT

The study programme Biology (state code – 612C10003) at Vytautas Magnus University is given **positive** evaluation.

*Study programme assessment in points by fields of assessment.*

<table>
<thead>
<tr>
<th>No.</th>
<th>Evaluation Area</th>
<th>Evaluation Area in Points*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Programme aims and learning outcomes</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>Curriculum design</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>Staff</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Material resources</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>Study process and assessment (student admission, study process student support, achievement assessment)</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Programme management (programme administration, internal quality assurance)</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total:** 17

*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. Trine Johansen Meza

**Grupės nariai:**
**Team members:**
Tonis Karki
Prof. Dr. Aleksandar Jovanovic
Prof. Dr. Laima Ivanovienė
Tadas Juknius
VYTAUTO DIDŽIOJO UNIVERSITETO PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS BIOLOGIJA (VALSTYBINIS KODAS – 612C10003) 2013-11-04
EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-344 IŠRAŠAS

V. APIBENDRINAMASIS ĮVERTINIMAS

Vytauto Didžiojo universiteto studijų programa *Biologija* (valstybinis kodas – 612C10003) vertinama **teigiamai**.

<table>
<thead>
<tr>
<th>Eil. Nr.</th>
<th>Vertinimo sritis</th>
<th>Srities įvertinimas, balais*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Programos tikslai ir numatomi studijų rezultatai</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Programos sandara</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Personalas</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Materialieji ištekliai</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Studijų eiga ir jos vertinimas</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Programos vadyba</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Iš viso:</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

* 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


Studijų kokybės vertinimo centras
Dėstytojai yra tinkami šiai programai. Dėstymo metodika taip pat tinkama; mokymas orientuotas į studentą, naudojamos šiuolaikinės dėstymo priemonės.


III. REKOMENDACIJOS

1. Universitetas turėjo sudaryti šios studijų programos numatomus studijų rezultatus laikydamasis Lietuvos kvalifikacijų sąrangos ir Europos kvalifikacijų sąrangos.

2. Parengti studijų dalykų aprašus, atitinkančius naujai sudarytus numatomus studijų rezultatus.


4. VDU turi nuodugniai peržiūrėti programos vadybą ir užtikrinti, kad atskomybe dalytusi keli asmenys, tada programos vadyba bus stipresnė.


<...>

___________________________________

Paslaugos teikėja patvirtina, jog yra susipažinusi su Lietuvos Respublikos baudžiamojo kodekso 1 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė, parašas)

Studijų kokybės vertinimo centras