STUDIJŲ KOKYBĖS VERTINIMO CENTRAS
CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

BIOLOGY FIELD OF STUDY

AT VYTAUTAS MAGNUS UNIVERSITY

EXTERNAL EVALUATION REPORT

Expert panel:

1. Panel chair: Prof dr. hab. Grzegorz Wegrzyn ..... (signature)
2. Academic member: Prof. dr. Ane Timenes Laugen
3. Academic member: Assoc. prof. Mirela Sertić Perić
4. Student representative: Karolina Limanovskaja

SKVC coordinator: Dr. Ona Šakalienė

Report prepared in 2025
Report language: English

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I. INTRODUCTION

1.1. OUTLINE OF THE EVALUATION PROCESS

The field of study evaluations in Lithuanian higher education institutions (HEIs) are based on the following:

- Procedure for the External Evaluation and Accreditation of Studies, Evaluation Areas and Indicators, approved by the Minister of Education, Science, and Sport;
- Methodology of External Evaluation of Study Fields approved by the Director of the Centre for Quality Assessment in Higher Education (SKVC);
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

The evaluation is intended to support HEIs in continuous enhancement of their study process and to inform the public about the quality of programmes within the field of study.

The object of the evaluation is all programmes within a specific field of study. A separate assessment is given for each study cycle.

The evaluation process consists of the following main steps: 1) Self-evaluation and production of a self-evaluation report (SER) prepared by an HEI; 2) A site visit by the review panel to the HEI; 3) The external evaluation report (EER) production by the review panel; 4) EER review by the HEI; 5) EER review by the Study Evaluation Committee; 6) Accreditation decision taken by SKVC; 7) Appeal procedure (if initiated by the HEI); 8) Follow-up activities, which include the production of a Progress Report on Recommendations Implementation by the HEI.

The main outcome of the evaluation process is the EER prepared by the review panel. The HEI is forwarded the draft EER for feedback on any factual mistakes. The draft report is then subject to approval by the external Study Evaluation Committee, operating under SKVC. Once approved, the EER serves as the basis for an accreditation decision. If an HEI disagrees with the outcome of the evaluation, it can file an appeal. On the basis of the approved EER, SKVC takes one of the following accreditation decisions:

- **Accreditation granted for 7 years** if all evaluation areas are evaluated as exceptional (5 points), very good (4 points), or good (3 points).
- **Accreditation granted for 3 years** if at least one evaluation area is evaluated as satisfactory (2 points).
- **Not accredited** if at least one evaluation area is evaluated as unsatisfactory (1 point).

If the field of study and cycle were **previously accredited for 3 years**, the re-evaluation of the field of study and cycle is initiated no earlier than after 2 years. After the re-evaluation of the field of study and cycle, SKVC takes one of the following decisions regarding the accreditation of the field of study and cycle:

- To be accredited for the remaining term until the next evaluation of the field of study and cycle, but no longer than 4 years, if all evaluation areas are evaluated as exceptional (5 points), very good (4 points) or good (3 points).
- To not be accredited, if at least one evaluation area is evaluated as satisfactory (2 points) or unsatisfactory (1 point).

1.2. REVIEW PANEL

The review panel was appointed in accordance with the Reviewer Selection Procedure as approved by the Director of SKVC.

The composition of the review panel was as follows:

1. Panel chair: Prof. Ph.D. Grzegorz Węgrzyn, Professor at Department of Molecular Biology, Faculty of Biology, University of Gdansk (Poland);
2. Academic member: Prof. dr. Ane Timenes Laugen, Professor at Department of Natural Sciences, University of Agder Kristiansand (Norway);
3. Academic member: Assoc. prof. Mirela Sertić Perić, Associate Professor at Department of Biology, Faculty of Science, University of Zagreb (Croatia);
4. Student representative: Karolina Limanovskaja, second-year student of the second-cycle molecular biotechnology study program of Vilnius University - Life Sciences Center (Lithuania).

1.3. SITE VISIT

The site visit was organised on 6 January 2025 onsite.

Meetings with the following members of the staff and stakeholders took place during the site visit:

- Senior management and administrative staff of the faculty;
- Team responsible for preparation of the SER;
- Teaching staff;
- Students;
- Alumni and social stakeholders including employers.

There was no need for translation and the meetings were conducted in English.

1.4. BACKGROUND OF THE REVIEW

Overview of the HEI

Vytautas Magnus University (abbreviated as VMU) was established in 1922; then, it was and re-established in 1989. It is a classical university. VMU organizational structure includes 14 academic divisions: Faculty of Arts, Faculty of Catholic Theology, Faculty of Economics and Management, Faculty of Humanities, Faculty of Informatics, Faculty of Law, Faculty of Natural Sciences, Faculty of Political Science and Diplomacy, Faculty of Social Sciences, Agriculture Academy, Education Academy, Music Academy, Institute of Foreign Languages, and Botanical Garden. Two collegial bodies manage the functioning of VMU, the Council and the Senate. Rector is a separate managerial body. The Council affirms the VMU vision, mission and the strategy, financial and other strategic issues. The Senate is a collegial body managing the academic affairs of VMU. The University is headed by the Rector, and the Rector's advisory institution is the Rector's Council. VMU provides degree studies of all three cycles – bachelor, master and PhD.

Overview of the study field

The Biology and Genetics study programme is based on innovations in scientific research. Experience of Western European and United States of America universities have been taken into consideration when established the programme. The first cycle (bachelor) of the programme is focused on biology, biochemistry, genetics, biotechnology, environmental protection, ecology, alternative energy sources, climate change and other related issues. The programme was previously named Biology, but it was then renamed to Biology and Genetics in 2017. To make the students broadly educated, the programme allows them to acquire knowledge not only in the field of Biology and Genetics, but also in physics and chemistry related to the origin and evolution of the universe, the interaction of humans and the natural environment, the impact of technology on the development of society, the principles of sustainable development, and other important aspects.

Previous external evaluations

The previous evaluation (finished in 2022, but evaluating the period up to 2021) accredited the Biology and Genetics study programme for a three-year period. The overall programme evaluation score was 20. The specific evaluation areas were ranked as satisfactory (study aims, outcomes and content; study quality management and publicity), good (links between science and studies; student admission and support; teaching and learning, student performance and graduate employment; teaching staff) and very good (learning facilities and resources). The experts indicated 7 recommendations for the Biology and Genetics study programme.

Documents and information used in the review

The following documents and/or information have been requested/provided by the HEI before or during the site visit:

- *Self-evaluation report and its annexes*
- *Final theses*

Additional sources of information used by the review panel:

The following additional sources of information have been used by the review panel:

- *Inspection of the teaching/learning facilities*
- *Information gained during meeting with particular groups*

II. STUDY PROGRAMMES IN THE FIELD

First cycle/LTQF 6

Title of the study programme	**Biology and genetics**
State code	6121DX011
Type of study (college/university)	University
Mode of study (full time/part time) and nominal duration (in years)	Full time, 4 years
Workload in ECTS	240
Award (degree and/or professional qualification)	Bachelor of Life Sciences
Language of instruction	Lithuanian, English
Admission requirements	Biology (exam, weighting factor 0.4), Lithuanian language and literature (exam, weighting factor 0.2), Chemistry or mathematics, or information technology, or physics (exam or annual grade, weighting factor 0.2), Any subject that does not overlap with other subjects (for which a maturity exam is organized in the current year; exam or annual grade, weighting factor 0.2).
First registration date	1990
Comments (including remarks on joint or interdisciplinary nature of the programme, mode of provision)	The programme allows students to acquire knowledge not only in the field of Biology and Genetics, but also in physics and chemistry related to the origin and evolution of the universe, the interaction of humans and the natural environment, the impact of technology on the development of society, the principles of sustainable development, and others.

III. ASSESSMENT IN POINTS BY CYCLE AND EVALUATION AREAS

The **first cycle** of the *biology* field of study is given a **positive** evaluation.

No.	Evaluation Area	Evaluation points[1*]
1.	Study aims, learning outcomes and curriculum	3
2.	Links between scientific (or artistic) research and higher education	4
3.	Student admission and support	4
4.	Teaching and learning, student assessment, and graduate employment	3
5.	Teaching staff	4
6.	Learning facilities and resources	4
7.	Quality assurance and public information	3
	Total:	25

IV. STUDY FIELD ANALYSIS

AREA 1: STUDY AIMS, LEARNING OUTCOMES AND CURRICULUM

1.1.	Programmes are aligned with the country's economic and societal needs and the strategy of the HEI

FACTUAL SITUATION

1.1.1. Programme aims and learning outcomes are aligned with the needs of the society and/or the labour market

According to the Self-Evaluation Report (SER), The Bachelor's programme in Biology and Genetics at Vytautas Magnus University (VMU) is designed to meet the evolving needs of society and the labour market, with a focus on the field of life sciences, including biotechnology, healthcare, genetic diseases, and biodiversity conservation. The programme aims to train specialists equipped with interdisciplinary knowledge in biology, genetics, biotechnology, and ecology, and prepares graduates for careers in scientific research, biotechnology, healthcare, and environmental conservation. The SER on this topic is brief and does not provide a detailed legal or policy basis for

1*

1 (unsatisfactory) - the area does not meet the minimum requirements, there are substantial shortcomings that hinder the implementation of the programmes in the field.
2 (satisfactory) - the area meets the minimum requirements, but there are substantial shortcomings that need to be eliminated.
3 (good) - the area is being developed systematically, without any substantial shortcomings.
4 (very good) - the area is evaluated very well in the national context and internationally, without any shortcomings.
5 (exceptional) - the area is evaluated exceptionally well in the national context and internationally.

the implementation of the programme, nor does it mention the strategic plans of the Lithuanian Ministry of Science and Education, the Lithuanian Government, or the European Commission that support its implementation. While the SER states that the programme meets current societal needs, it does not provide specific evidence or statistical data on the needs of the Lithuanian labour market for biology and genetics professionals. According to the SER, the continuous updating of the programme ensures its relevance to both the national and international labour market and meets the demand for qualified professionals in various sectors. However, more detailed data on the specific needs of the labour market would strengthen this evaluation. The four main goals outlined in the SER are broad and general. However, without a clear list of specific, detailed outcomes for the study programme and no direct link to identified labour market needs, it is challenging to assess how well the programme's aims and outcomes align with societal demands or labour market requirements. A more detailed approach, including specific connections to sector needs, would facilitate a clearer evaluation.

1.1.2. Programme aims and learning outcomes are aligned with the HEI's mission, goals, and strategy

According to the SER, the goals of the Biology and Genetics programme at VMU are based on the VMU strategy for 2021-2027, which is based on five overarching goals: 1. Community in harmony and consolidation, 2. International research university, 3. "Studies 360°", 4. Integrity of self-governance and responsibility, 5. University impact on societal development. The SER notes that the programme aligns with the University's strategic goals by: fostering global connections through alumni engagement and international exchange opportunities; supporting modern teaching methods and flexible study formats that enhance both the quality of teaching and the integration of technologies; utilising state-of-the-art facilities and laboratories that provide students with practical skills; preparing graduates to address global challenges such as climate change, genetic diseases, and biodiversity conservation. The SER points out that the Biology and Genetics programme aligns with VMU's mission to develop creative, responsible and globally competitive professionals. These graduates are able to contribute to societal well-being, scientific progress and the development of innovative solutions.

ANALYSIS AND CONCLUSION (regarding 1.1.)

Ad. 1.1.1. The Panel judges that the B.Sc. Biology and Genetics programme at VMU aligns fairly well with societal and labour market needs, but there are areas that could benefit from further enhancement. Students report gaining strong theoretical knowledge, particularly in areas like genetics, but express a desire for more hands-on practical experience, especially in laboratory settings. While alumni value the programme's solid foundational knowledge, particularly in biology, chemistry, and physics, they highlight the importance of further practical skills. Employers appreciate the programme's ability to produce quick learners with critical thinking skills, and B.Sc. graduates are often employed as technicians or invited to complete their thesis in employer labs, with many encouraged to stay and build their careers. However, they note that B.Sc. graduates are not often directly employed in their labs post-graduation. The programme has strengths in offering broad exposure to various fields and encouraging student-professor interaction, which helps with career guidance. However, the relatively high dropout rate (about 20-30%) after the first year (as noted by faculty and university leadership during the interviews) and the limited focus on environmental sector careers (as observed by the Panel, given the strong emphasis on genetics and biotechnology topics described enthusiastically by students, alumni, and employers) suggest that the curriculum may require further alignment with broader job market trends. Overall, while the programme offers

valuable theoretical grounding and potential for career development, more integration of practical, hands-on experience would strengthen its relevance to both students and employers. Furthermore, Thermo Fisher Scientific is frequently mentioned as a sought-after employer, but there is some uncertainty regarding whether all graduates of the programme are able to secure employment with the company. Given the relatively high dropout rates after the first year and the smaller number of students in the later years of study, the output of graduates appears to be limited. This raises the question of whether the programme, as currently structured, continues to serve the needs of the student population and the labour market, especially if the number of graduates is relatively small. While the programme remains valuable, these trends warrant consideration of how to ensure its long-term sustainability and alignment with labour market demand.

Ad. 1.1.2. The Panel judges that the Biology and Genetics programme at VMU demonstrates a strong alignment with the university's mission, objectives, and strategic goals. The programme supports VMU's strategy for 2021-2027, which focuses on fostering a harmonious community, enhancing global research connections, and ensuring societal impact. Through international exchange opportunities, modern and state-of-the-art facilities, the programme prepares graduates to address global challenges such as climate change, genetic diseases, and biodiversity conservation, aligning with the university's mission to develop creative, responsible, and globally competitive professionals. However, there are areas for improvement. While the university has measures in place to support diversity and inclusion, such as a psychological support centre and assistance for international students, further efforts to raise visibility and accessibility of these resources could benefit the community. The role of alumni engagement, particularly through the "VMU Ambassadors Club", appears to be underdeveloped, as awareness of this initiative among students and alumni is limited (according to interviews with them). In addition, while the university actively seeks funding for research projects, with approximately 60% of its budget coming from government sources and 40% from competitive external sources (according to university leadership/faculty), its overall budget remains relatively modest compared to other institutions. In terms of career development, the university offers lifelong learning opportunities, such as courses in communication and AI, which support the professional growth of non-traditional students and professionals. The programme also ensures that students have access to research equipment, although some facilities are limited to teaching purposes. Overall, while the programme aligns well with VMU's strategic goals and mission, greater visibility of support structures and enhanced engagement with alumni could strengthen its contribution to the ongoing development of the study programme.

1.2.	Programmes comply with legal requirements, while curriculum design, curriculum, teaching/learning and assessment methods enable students to achieve study aims and learning outcomes

FACTUAL SITUATION

1.2.1. Programmes comply with legal requirements

The self-evaluation report (SER) emphasises that the Biology and Genetics study programme complies with both national and international legal requirements. It adheres to the general study requirements, the Descriptor of the study field, and the Descriptor of study cycles. The programme offers 240 ECTS credits over four years, with a clear structure of compulsory and elective courses (including courses of the study field and courses of another study field/other study fields), internships, field courses, and a final thesis (bachelor thesis paper). The study plan, which is available as Appendix 1 in English, contains a clear list of ECTS credits, student workload, teachers, and forms

of assessment. Although the descriptors and general study requirements are only available in Lithuanian, the SER summarises the essential information in Table 1. The aim of the programme is to provide students with comprehensive theoretical and practical knowledge in biology and genetics and to prepare them for careers in science, healthcare and the environment.

1.2.2. Programme aims, learning outcomes, teaching/learning and assessment methods are aligned

The self-evaluation report (SER) provides an overview of the alignment between the aims, learning outcomes, teaching/learning methods, and assessment methods for the Bachelor's study programme in Biology and Genetics, and shows the coherence between these components. The programme's aims, such as the promotion of independent research skills and interdisciplinary approaches, are closely linked to the curriculum, including courses, teaching methods (e.g., laboratory work, project methods, seminars) and assessment strategies (e.g., tests, presentations, assessment of practical tasks). All these elements together ensure that students are well prepared for an academic or professional career in biology and genetics. However, the SER lacks a detailed insight into the learning outcomes of each course, which would further clarify how each subject contributes to the overall objectives. Annex 1 of the SER (which is not mentioned in point 1.4. of the SER) provides an overview of the study courses, work hours, and forms of assessment, but does not include specific learning outcomes for each course, making it difficult to fully understand how these outcomes align with the programme's broader objectives. The document includes a single example of the study course (Immunology) that illustrates how the course-specific learning outcomes, study methods, and assessment methods align with the overall programme outcomes. Nevertheless, a more thorough examination of all courses would improve clarity about the alignment of the overall curriculum. The allocation of ECTS credits is detailed based on the number of contact and independent work hours required for each course. For example, courses in the compulsory area require 45–75 contact hours and 62–85 independent work hours, with ECTS allocation ranging from 3 to 6 credits depending on the type of course. For example, 4 credits are awarded for courses in the compulsory area of the field of study with 45 contact work hours and 62 independent work hours, 5 credits are usually awarded for fieldwork/courses (e.g., Field Work in Plant Biology and Field Work in Animal Biology) and courses in the compulsory area of the field of study with 60 contact work hours and 73 independent work hours, 6 credits are usually awarded for courses in the compulsory area of another field of study/other fields of study (e.g., Mathematics, General Physics, Biochemistry, Microbiology) with 75 contact hours and 85 independent work hours, 3 credits are allocated to some courses for the development of basic knowledge (e.g., Biostatistics, Term Paper 1, Term Paper 2) with a total of 80 work hours. The Bachelor's thesis is awarded 15 ECTS credits and requires 400 hours of work. The distribution of work hours and ECTS credits is reviewed annually by the programme committee in consultation with lecturers and students to ensure that the workload is balanced and aligned with the learning outcomes. The SER specifies five categories of learning outcomes for the programme: Knowledge and Application, Research Skills, Special Abilities, Social Abilities, and Personal Abilities. These are linked to the overall programme objectives and the courses in Table 2, but the lack of detailed learning outcomes for each course is a notable omission. The learning outcomes for the programme are regularly reviewed by the Study Field Committee, as outlined in the VMU Study Regulations and Quality Assurance Procedure, but there is no information on the number of lectures, seminars, and lab hours for each course. More transparency on these aspects would provide a clearer picture of how the teaching, learning and assessment methods align with the intended learning outcomes of the Biology and Genetics programme.

1.2.3. Curriculum ensures consistent development of student competences

The Biology and Genetics study programme is structured to cover 240 ECTS credits, comprising theoretical courses, field and laboratory work, term papers, and a final thesis, all designed to progressively develop students' competencies. Spanning four years (8 semesters), the programme typically includes six courses per semester, amounting to about 30 ECTS credits. It is divided into two main course groups: 1) study field courses, which encompass natural sciences, mathematics, and professional language courses (150-158 ECTS), and 2) study courses from other fields, which include general subjects like foreign languages and digital competencies, as well as introductory courses from other study programmes (82-90 ECTS). The programme starts with foundational courses in biology, ecology, chemistry, physics, and mathematics, establishing a solid theoretical base. As students' progress, they move into specialized courses such as "Molecular Genetics" and "Epigenetics", deepening their expertise in Biology and Genetics. Practical skills are developed through hands-on courses like "Field Work in Plant Biology" and "Special Biology Practice", where students engage in research, data analysis, and presentation. Term papers and a bachelor's thesis provide opportunities for students to integrate their knowledge and skills. In the first two years, the focus is on acquiring essential knowledge in the natural and biological sciences. From the third year onwards, students delve into more specialized biology topics, combining theoretical knowledge with practical research experience, both individually and in teams. The programme also offers elective courses, allowing students to specialize further in areas such as "Ornithology" and "Ecogenotoxicology", aligned with their career aspirations. The increasing complexity of coursework, practical assignments, and research activities ensures that graduates are well-prepared for professional careers or further studies at the master's or doctoral level.

1.2.4. Opportunities for students to personalise curriculum according to their personal learning goals and intended learning outcomes are ensured

The Biology and Genetics study programme at VMU offers students various opportunities to personalize their studies according to their individual learning and career goals. Students can create an individualized plan of study that allows flexibility in course selection, consultation timings, and assessments, which are governed by VMU procedures. They may also pursue individualized studies based on the *Artes Liberales* principles, enabling them to gain additional knowledge and skills for their academic and career development. Further customization is possible through electives, including specialized courses in biology and genetics, as well as electives from other fields such as social sciences, humanities and digital literacy. Students can also choose minor study options in areas such as biotechnology, environmental science or management. Practical experience through internships and research opportunities, such as "Special Biology Practice" or "Field Work in Animal Biology", allow students to tailor their studies to their personal interests and career plans. Foreign language learning is another individualized aspect, with more than 30 languages available, allowing students to develop international communication skills. Furthermore, students can supplement their formal studies with additional competence courses, such as those offered through Coursera, and validate these as part of their study programme or separately. This range of options ensures that students can tailor their studies to their academic and professional goals.

1.2.5. Final theses (applied projects) comply with the requirements for the field and cycle

The preparation and defence of final theses in the Biology and Genetics study programme are regulated by VMU Study Regulations and specific guidelines provided by the Department of Biology. The final thesis is an important component that allows students to demonstrate their ability to apply the theoretical and practical knowledge acquired during their studies. The main aim is to develop research skills, problem-solving skills and the ability to critically analyse and evaluate data in order

to prepare students for a career in academia and the private sector or for further study at the master's level. Students choose a topic for their dissertation that relates to current issues in biology and genetics, often based on their own interests or suggested by a supervisor. Topics typically include areas such as molecular genetics, bioinformatics, biotechnology and environmental research. Students are encouraged to carry out their research in collaboration with external partners such as Thermo Fisher Scientific or the Lithuanian Research Center for Agriculture and Forestry so that they can gain practical experience in a real-life environment. Thesis topics are approved by the Head of the Department of Biology and students are guided by a supervisor throughout the process. The thesis must meet the specific requirements of the department in terms of structure, formatting and content. Upon completion, students defend their thesis before a five-member committee, which evaluates the thesis according to established criteria. The defence includes a presentation of the thesis, followed by questions from the committee. The final evaluation consists of the assessments of the supervisor, the reviewer, and the committee members. If the thesis is assessed negatively, students may defend their thesis again after six months. All theses are stored in the university's research management system (CRIS). According to Annex 2, most theses are assessed with grades ranging from 8 to 10. The most common themes can be grouped into three key areas: 1) Pathogen detection, which focuses on identifying and studying pathogens, particularly those transmitted by ticks or affecting animals such as cats, foxes, and bats; 2) Genetic studies, emphasizing the molecular genetic analysis of both animal and plant species, as well as pathogen diversity; and 3) Biodiversity and ecological research, which explores the distribution and impact of invertebrates and fungi across various habitats, as well as the broader environmental effects on organisms. These recurring themes highlight the program's emphasis on applied biology, molecular diagnostics, and ecological research.

ANALYSIS AND CONCLUSION (regarding 1.2.)

Ad. 1.2.1. The Panel judges that the Biology and Genetics degree programme at VMU meets the national and international legal requirements as set out in the university's Self-Evaluation Report (SER). The programme follows the general study requirements and descriptors for both the study field and the study cycles. It is structured to offer 240 ECTS credits over four years and includes a balanced mix of compulsory and elective courses, internships, field courses and a final Bachelor's thesis. The study plan, which is available in English, clearly details the distribution of ECTS credits, student workload, teaching staff and assessment methods. While the full descriptions and study requirements are only available in Lithuanian, the SER provides a clear summary of the essential information. The four-year duration of the Bachelor's programme, which is longer than the standard three years in some countries, is justified by the University's commitment to a comprehensive liberal arts education. The extended duration allows students to study a wide range of subjects, including minor programmes, and ensures that learning outcomes can be fully achieved. The programme is aligned with the European Credit Transfer and Accumulation System (ECTS), allowing students to easily transfer credits for international exchange. In addition, the high number of contact hours per teacher is considered normal within the comprehensive teaching and research approach of the programme, although the balance between teaching and research tasks remains a challenge for faculty. However, the Panel noted that the English version of the programme structure (on the VMU web pages) is not regularly updated and does not fully match the latest version of the programme as presented on the Lithuanian pages and in official documents. The Panel recommends that the University ensure that the English version of the programme is regularly updated to provide accurate and consistent information to international students and stakeholders. Overall, the programme meets the legal and academic requirements for a Bachelor of Science in Biology and Genetics and provides

students with the necessary theoretical and practical knowledge for a career in science, healthcare and the environment.

Ad. 1.2.2. The Panel considers that the aims, learning outcomes, teaching/learning methods and assessment methods of the Biology and Genetics programme at VMU are generally well aligned with the overall aims of the programme. The programme aims to foster independent research skills and interdisciplinary approaches, which is reflected in the curriculum through various teaching methods such as laboratory work, project-based learning and seminars, as well as assessment strategies such as tests, presentations and the evaluation of practical assignments. These components work together to adequately prepare students for academic and professional careers in biology and genetics. However, the Panel notes that the SER lacks a detailed breakdown of course-specific learning outcomes that would make clear how each individual course contributes to the overall programme goals. However, an example from the Immunology course illustrates the alignment between course-specific learning outcomes and overall programme objectives. The programme provides an overview of the distribution of ECTS credits with a clear allocation based on contact and independent work hours. For example, compulsory courses require 45–75 contact hours and 62–85 independent work hours, with the corresponding ECTS credits ranging from 3 to 6. However, in discussions with students and faculty members, the Panel noted that the distribution of ECTS credits does not always appear to be consistent. It appears that some courses with fewer credits require more commitment (based on the conversations with faculty members and students) than those with higher credits, indicating a possible mismatch between workload and credit allocation. In addition, while the programme has improved by making genetics courses compulsory (as recommended in the previous evaluation), there is still a need for further integration of genetics topics to better align with the programme title and employer expectations. The Panel also noted that the programme course listings on the university website are not always up to date. While students report that the overall workload and balance of courses is satisfactory, the Panel recommends greater transparency in the learning outcomes of individual courses, regular updating of course offerings on the university website, and more consistent allocation of work hours and ECTS credits to ensure overall coherence of the curriculum. Considering the employer sector's emphasis on attracting students with a strong genetics and biotechnology background, further strengthening the genetics-focused courses would enhance the alignment between the programme’s objectives and its teaching, learning, and assessment methods.

Ad. 1.2.3. The Panel judges that the Biology and Genetics degree programme at the VMU is structured to ensure consistent and progressive development of students' competencies. The first two years of study focus on the acquisition of fundamental knowledge in the natural and biological sciences, while in the third and fourth years, students have the opportunity to delve into more specialised areas and combine theoretical learning with practical research experience. The inclusion of electives provides students with the opportunity to specialise in specific areas that align with their career goals. Overall, the increasing complexity of courses, practical assignments, and research activities ensures that students receive a solid and well-rounded education that prepares them for a professional career or further study at Masters or PhD level (a point echoed by some of the alumni present during the panel members' visit to VMU). However, the Panel notes that the relatively small number of students in the later years of the programme, combined with the limited size of the job market in certain sectors, may warrant a review of the programme’s focus on future student demand and industry needs.

Ad. 1.2.4. The Panel judges that the Biology and Genetics study programme at VMU provides students with numerous opportunities to personalize their learning according to their individual academic and career goals. The programme’s structure allows students to create an individualized

plan of study that provides flexibility in course selection, office hours, and assessment methods, all of which are governed by VMU procedures. This flexibility allows students to tailor their studies to their personal learning objectives and intended learning outcomes. Students can further individualize their education by selecting electives in specific areas of biology and genetics, as well as other areas such as social sciences, humanities, and digital literacy. The option to take minors such as biotechnology, environmental science or management, provides another level of customization, and allows students to gain additional qualifications that complement their major. For example, students interested in management can take up to 60 ECTS in minors to prepare for leadership roles, while those pursuing a career in teaching can focus on pedagogy. The program also encourages hands-on experience through internships and research opportunities, such as “Special Biology Practice” and “Field Work in Animal Biology”. Additionally, foreign language learning, with over 30 languages available, enhances students’ international communication skills. The Panel got the impression that students are satisfied with the range of options and the flexibility offered by the programme, as it supports their individual academic and professional aspirations. This range of opportunities ensures that students can effectively personalize their educational experience, equipping them with the knowledge, skills, and competencies needed to meet their professional and personal goals. The flexibility offered by the programme is a strong asset for students wishing to customize their academic path.

Ad. 1.2.5. The Panel judges that the final theses in the Biology and Genetics study programme at VMU generally meet the requirements of the field and cycle requirements, offering students the opportunity to apply the knowledge and skills acquired during their studies. The preparation and defence of the thesis is governed by VMU's academic regulations and departmental guidelines, which ensure that students are guided through the process by a supervisor and evaluated by a five-member committee. As evidenced by conversations with faculty, students and employers/alumni, students often choose topics that match their personal interests or are suggested by a supervisor who also has a connection to the real sector (employees from the labour market) so that students have the opportunity to work on their thesis in industry/a relevant field/institution outside of the faculty. Common thesis topics include molecular genetics, bioinformatics, biotechnology and environmental research, with particular emphasis on pathogen detection, genetic studies and biodiversity. This broad range of topics reflects the programme's focus on applied biology, molecular diagnostics and ecological research. Many students work with external partners such as Thermo Fisher Scientific or the Lithuanian Research Centre for Agriculture and Forestry, allowing them to gain practical experience. However, some students have indicated that it is difficult to find mentors for certain topics, such as marine biology. In addition, there is feedback suggesting that some theses rely on descriptive data rather than advanced statistical analysis, and that thesis discussions could benefit from a more thorough comparison with similar studies. The Panel suggests that a greater emphasis on advanced data analysis and improving the depth of thesis discussions would strengthen the academic rigour of the programme. Overall, the thesis component is well structured, with clear guidelines and support from supervisors, and provides valuable opportunities for students to develop their research skills and contribute to the field of biology and genetics.

AREA 1: CONCLUSIONS

AREA 1	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle			X		

COMMENDATIONS

1. Alignment with legal and academic requirements: The Biology and Genetics degree programme at VMU effectively meets both national and international legal requirements, adhering to the necessary academic standards, including ECTS credits, course structure, and assessments.
2. Flexibility and personalization: The programme's flexibility, allowing students to tailor their studies through elective courses and minors in diverse areas such as biotechnology, environmental science, and management, is highly commendable. This supports individual academic and career aspirations.

RECOMMENDATIONS

To address shortcomings

1. Improve transparency in course learning outcomes: The Panel recommends providing more detailed and transparent course-specific learning outcomes, making clear how each course contributes to the overall programme goals. This would help students better understand how each course fits into their academic trajectory.
2. Strengthen genetics integration: The programme would benefit from further integration of genetics topics to align more closely with the programme's title and meet employer expectations for a strong genetics foundation.
3. Put more emphasis on including advanced data analysis and improving the depth of discussions in diploma theses, as currently some theses rely on descriptive presentations rather than advanced analyses of data.

For further improvement

1. Increase mentorship availability: Some students have expressed difficulty finding mentors for certain specialized topics (e.g., marine biology). Expanding the pool of available mentors and providing more guidance for niche topics could improve the research experience for all students.
2. Align programme with job market needs: Given the relatively small number of students in later years and limited job opportunities in some sectors, it may be beneficial to review the programme's focus and ensure alignment with future industry needs, focusing on areas where there is greater demand and employment opportunities.
3. Regularly update course listings: The course listings on the university website should be updated more regularly to ensure that students have the most current information on available courses and their content.

4. Ensure more integration of practical, hands-on experience to strengthen its relevance to both students and employers.
5. Analyse whether the programme, as currently structured, continues to serve the needs of the student population and the labour market, especially if the number of graduates is relatively small.
6. Make efforts towards increasing a role for alumni engagement, particularly through the “VMU Ambassadors Club”.
7. Provide a detailed breakdown of course-specific learning outcomes that would make clear how each individual course contributes to the overall programme goals.
8. Consider a better adjustment of ECTS credits which should be consistent and compatible with real commitments of students in particular courses.
9. Consider reviewing the programme’s focus on future student demand and industry needs, especially in the light of the relatively small number of students in last years of the programme, combined with the limited size of the job market in certain sectors.

AREA 2: LINKS BETWEEN SCIENTIFIC (OR ARTISTIC) RESEARCH AND HIGHER EDUCATION

2.1.	Higher education integrates the latest developments in scientific (or artistic) research and technology and enables students to develop skills for scientific (or artistic) research

FACTUAL SITUATION

2.1.1. Research within the field of study is at a sufficient level

In 2023, the Biology research field at VMU was rated 3 (good). The synergy between various biology disciplines (like molecular genetics, conservation biology, and parasitology) was highly evaluated, as were connections to forestry and mathematics which build a platform for collaborative research and educational initiatives. The best research results are published in peer-reviewed international journals, however, the fraction of international publications should still be increased. To improve this, VMU motivates researchers with bonuses for publications in international journals.

Five Natural and Technological Sciences Clusters were established at VMU to enhance research activities. There is an extensive collaboration with social and international partners. This improves the quality of research and plays an important role in updating study programs. Students are, therefore, provided with opportunities to be engaged in research projects, and to achieve practical skills.

2.1.2. Curriculum is linked to the latest developments in science, art, and technology

The Biology and Genetics study program is updated regularly. Latest advancements in science, technology, and research are incorporated into the program to ensure that students can acquire the most relevant theoretical and practical knowledge. Current trends in biology and genetics are integrated into the curriculum sciences. The examples are gene editing, bioinformatics, data analysis, and biotechnological advancements. Laboratory courses are continually improved, modernized, enhanced, and updated with the latest scientific and technological innovations. There are many examples of such improvements in theoretical and practical courses.

2.1.3. Opportunities for students to engage in research are consistent with the cycle

Students have many opportunities to be involved in research activities. Academic teachers present their own research during courses and invite students to join the projects. Students can also initiate scientific projects independently by using information provided in the research management systems. Students can actively participate in research projects. If obtaining valuable results, students are encouraged to publish their findings in scientific journals and present them at scientific conferences. During the 2020-2023 period, about 16% of students of the biology and genetics program participated in scientific projects. In the 2022/2023 academic year, 3 students were employed as laboratory assistants. Moreover, students presented 42 communications at scientific conferences and co-authored 4 articles in international journals.

ANALYSIS AND CONCLUSION (regarding 2.1.)

The research in the field of biology and genetics is conducted at VMU at a good level. There are examples of scientifically significant discoveries, which academic teachers from VMU participated in, which were published in internationally-recognized journals. The creation of the Research Institute of Natural and Technological Sciences in 2022, which aimed to conduct international fundamental and applied research addressing societal needs, helped to increase the level of research, including subjects related to biology and genetics. Collaboration with national and international partners definitely increases the research possibilities which are reflected in high-level results. This is facilitated by participation in research projects, including international programs, like Horizon Europe. Nevertheless, still a relatively large proportion of articles (about 50%) is published in very local journals, some of them in non-English languages. Although sometimes, in specific situations and in specific fields of research, such a strategy of publishing is reasonable, still too many articles concerning subjects potentially interesting for international groups of scientists are disseminated in journals or books with a very restricted availability. One should note that the publishing strategy has improved since the last evaluations, nevertheless, a fraction of internationally recognized publications needs further increase in near future.

The curriculum is linked to the latest developments in the field of biology and genetics, as the study programme is continuously updated. The analysis of the study program and laboratory courses indicated that they are regularly improved and updated. Examples of such modernization of courses include introducing novel technologies enhancing early detection of infections, the use of biological markers and modern tools in ecosystem monitoring. These were included in courses of Research Methodology, Population and Ecological Genomics, Molecular Biology in Biotechnology, Specialized Biology Practice, and Molecular Genetics. Another example is including novel information and methods of studying active biological molecules (like siRNA and plasmids) and their delivery to neural cells which were added to courses of Research Methodology and Neurobiology. Using modern techniques like CRISPR/Cas9 in the course of Molecular Genetics is also an indication of inclusion of recently developed methods into the curriculum. Thus, the curriculum is updated according to new scientific discoveries. Excellently equipped, new laboratory classes facilitate such an update significantly.

Generally, students have the possibility to participate in research projects, and in some cases they can also initiate scientific projects. On the other hand, in recent years, only about 16% of students participated in scientific projects. This fraction of students actively involved in research should be increased in the near future. The positive sign is an increasing number of communications presented at scientific conferences by students (over 40 in recent years), and co-authorships of students in scientific articles published in international journals – although there were only 4 such cases in recent

years, it is a relatively good number considering that there are BSc students. Such activities are facilitated by new laboratories which are equipped with modern laboratory devices.

AREA 2: CONCLUSIONS

AREA 2	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. Demonstration of scientifically significant discoveries made by academic teachers, especially in collaboration with international partners.
2. Regular modernization of courses to introduce novel technologies, exemplified with including modern methods for enhancing early detection of infections, the use of biological markers and modern tools in ecosystem monitoring.

RECOMMENDATIONS

To address shortcomings

None

For further improvement

3. Increasing the fraction of publications in international journals and/or publishers, in contrast to those in local ones.
4. Involving more students in active participation in research projects.

AREA 3: STUDENT ADMISSION AND SUPPORT

3.1.	Student selection and admission is in line with the learning outcomes

FACTUAL SITUATION

3.1.1. Student selection and admission criteria and procedures are adequate and transparent.

The detailed document, "Procedure Description for Forming Competitive Rankings," clearly outlines the conditions for admission, calculation of competition scores, criteria for awarding additional points, and methods of publicizing information. This structure ensures transparency and makes it easier for applicants to understand the admission process. The document in itself is in accordance with the state laws and provides a comprehensive structure of the admission process. In order to apply for the programme to study, students must provide their subject-specific exams or grades (e.g., 0.4 for biology, 0.2 for chemistry or mathematics) which reflects a fair and balanced approach to assessing candidates' preparation for the Biology and Genetics programme. Additionally students may add documentation of specific achievements like state olympiad awards, work experience or participation

in summer schools. The inclusion of a broad range of subjects ensures that applicants with diverse strengths are considered. Additional allocation of state funded (SF) and non-state-funded (NSF) admission places adheres to state laws and guidelines. Despite slight fluctuations in competition scores, the stability of average scores for SF places (6.89–7.38) suggests a consistent standard for academic preparation. The increasing competition for NSF places reflects growing interest and higher standards among these applicants, further supporting the robustness of the admission process. Over the period from 2021 until 2023 the number of admitted students into the study program remains stable with slight fluctuations 23 - 36 in the year of 2024 there was a noticeable increase of 34 students admitted into the program. It is important to note that most of the contracts signed remain for state-funded places in the program which highlights the support received from the state and emphasises the demand for experts in this field.

3.1.2. Recognition of foreign qualifications, periods of study, and prior learning (established provisions and procedures)

The policies and procedures for the recognition of foreign qualifications, periods of study, and prior learning at Vytautas Magnus University (VMU) are comprehensive, transparent, and clearly aligned with international best practices. The system demonstrates flexibility and a strong commitment to ensuring fairness and accessibility for diverse student backgrounds. The recognition of foreign qualifications is in very good condition emphasizing the centralised approach of the VMU International Cooperation Department. There is clear documentation and adherence to national regulations, like the "Description of Procedure for Assessment and Academic Recognition of the Qualification Acquired Abroad," provide a structured framework, reducing ambiguity for applicants. VMU shows a high rate of successful recognition for applications in the biology and genetics study program during the period from 2021 until 2024 - 96 students. Once again emphasising the efficiency and applied support. A total of 133 credits were admitted during the analysis period, representing 71% of the total number of credits taken in the program. This shows that the results achieved during the studies and internships are systematically assessed and recognised to ensure smooth crediting and integration into the students' individual study plans. In instances where there is a need for the validation of learning outcomes and their compliance with the requirements of the study programme. Not more than 75 percent of the volume of the study programme to be studied may be recognised. This provides a lot of flexibility considering transferees from other higher education institutes.

ANALYSIS AND CONCLUSION (regarding 3.1.)

The student selection and admission processes at VMU are well-defined, transparent, and regularly updated to ensure alignment with both institutional goals and national regulations. The criteria are clearly documented, accessible to applicants, and tailored to accommodate diverse backgrounds, including international students and those with non-traditional qualifications. The use of centralized systems, clear guidelines, and regular updates fosters consistency and equity in decision-making. VMU demonstrates a strong commitment to inclusivity, transparency, and academic fairness through its selection, admission, and recognition policies. The regular updates to regulations, coupled with structured procedures and case-specific adaptability, ensure the university's alignment with global best practices and its capacity to accommodate diverse learner profiles effectively.

3.2.	There is an effective student support system enabling students to maximise their learning progress

FACTUAL SITUATION

3.2.1. Opportunities for student academic mobility are ensured

VMU has ensured that all students that are studying in the biology and genetics study program have an opportunity to utilise their mobility options by continuously informing students on their options. VMU has established contact with 440 partners in the EU and EEA together with additional candidate countries. The use of multiple mobility programs allows for students to take more advantage of the exchange programs. Internships like Erasmus + can allow students a more prolonged mobility period lasting from 2 to 12 months. In 2022 short-term mobility internships that last from 5 to 30 days were introduced in the institution. This promoted an increased use of mobility programs as the number of students that part-take in short-term exchange increased from 14 to 84. This change can be explained as the students feel more supported in the university and feel like they have more flexibility allocated for them. The mobility programs include not only professional practices but also options for academic exchange which further facilitates flexibility. Additionally VMU is sustaining great numbers of incoming exchange students as the institution initiates a lot of contact points with universities abroad which additionally promotes the study program. In the year of 2021-2020 there were 23 students coming from abroad, 2022-2023 there were 40 students and in the year 2023-2024 there were 33 incoming students. All in all VMU provides all possible options for students to ensure academic mobility.

3.2.2. Academic, financial, social, psychological, and personal support provided to students is relevant, adequate, and effective

Overall VMU provides a well-rounded framework of support for students including psychological counselling, stipend for high achieving students, students who experience financial hardship and students who show outstanding results in scientific work. University provides options for academic flexibility, provides counselling in cases of academic hardship or if students have additional questions when it comes to their study program. Financial aid is offered in the form of social, motivational, and achievement-based scholarships. Nominal and one-time scholarships for academic or artistic accomplishments are also available. For example, 21.5% of Biology and Genetics students received one-time or nominal scholarships during the review period. International students in the faculty note of the incredible support they receive and students overall emphasise on the openness of the faculty and the general open-door policy when it comes to any kind of assistance. Generally during the study year students receive timely and comprehensive information regarding studies, institutional updates, and extracurricular activities through various platforms, such as Moodle, student portals, newsletters, and social media channels. Regular consultations with teachers and faculty administrators ensure academic clarity and progress. Students can interact face-to-face or through online platforms like Teams and Zoom, promoting flexibility and accessibility. Tools like career planning seminars and meetings with alumni provide valuable insights into real-world applications of academic knowledge, however students note that additional information on how they can use their acquired knowledge to start a business, what steps they could take and what other skills (other than scientific research and analysis) the program can provide for them could be helpful. The university could work on implementing additional multi-disciplinary workshops into the study program to open up more doors for students. VMU also provides additional social support in terms of dormitory discounts depending on social circumstances. Additionally the university provides psychological consultations for students in need.

3.2.3. Higher education information and student counselling are sufficient

VMU provides a well-structured, sufficient and sustainable structure when it comes to providing students with the information necessary for their studies. Events hosted by VMA like Ïntroduction to

studies"or Ïnformation week"provides first-year bachelor students and new master's students with an introductory essential information on the study process, campus resources, support services, and extracurricular opportunities. Faculty-specific orientations such as Faculty Day further familiarize students with their chosen programmes and motivate them toward academic success. Information is provided to students through multiple platforms like: social media, emails, moodle, universities webpage which provides additional resources and makes the information more accessible for students which further allows students to make informed decisions based on their needs. Events and meetings involving mentors, senior students, and faculty provide new students with opportunities to integrate into the academic community and learn from experienced peers.

ANALYSIS AND CONCLUSION (regarding 3.2.)

The academic, financial, social, psychological, and personal support provided to students is highly relevant, adequate, and effective. The well-structured system ensures that students are not only supported in their academic pursuits but also in their personal development and overall well-being. The availability of financial aid, career guidance, psychological counseling, and social engagement opportunities creates a holistic support network that fosters success. Additionally, the sufficiency of higher education information and counseling ensures students are empowered with the knowledge and resources necessary to navigate their studies and future careers effectively.

AREA 3: CONCLUSIONS

AREA 3	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. Excellent student support system.
2. Great student mobility.

RECOMMENDATIONS

To address shortcomings

None

For further improvement

1. Ensure the sustainability and continuity of currently provided support.
2. Start implementing seminars or communication campaigns on what success stories from students who already finished the study program.
3. Offer additional resources, such as seminars and workshops, to guide students on how to apply the knowledge gained from their studies to launch their own businesses or acquire complementary skills for interdisciplinary expertise.

AREA 4: TEACHING AND LEARNING, STUDENT ASSESSMENT, AND GRADUATE EMPLOYMENT

4.1.	Students are prepared for independent professional activity

FACTUAL SITUATION

4.1.1. Teaching and learning address the needs of students and enable them to achieve intended learning outcomes

The self-evaluation report (SER) emphasizes a flexible and diverse teaching and learning process that responds to students' needs and supports the achievement of the intended learning outcomes. The program employs a variety of teaching methods, including lectures, seminars, laboratory work and practical sessions, each tailored to the specific needs of the subject. VMU uses an accumulative assessment system that integrates various forms of assessment such as mid-term examinations, laboratory work, practical assignments and written examinations. This system ensures that students' performance is continuously monitored. In addition, the program promotes independent learning through assignments, consultations and projects, and encourages teamwork through group tasks and discussions. Regular feedback is provided to support students' progress. The university also provides strong support for distance learning and uses tools such as VMU Office 365 Teams and BigBlueButton to facilitate communication and learning. Overall, the university's approach is designed to develop both theoretical knowledge and practical skills, preparing students for professional careers and further studies.

4.1.2. Access to higher education for socially vulnerable groups and students with individual needs is ensured.

In the self-evaluation report (SER), the university emphasizes its commitment to access to education for socially vulnerable groups and students with special needs. The “University of Inclusive Opportunities” policy adopted in 2021 describes efforts to improve the accessibility of studies for people with disabilities. This includes ensuring adapted study conditions, such as the provision of suitable furniture, equipment and accessible facilities. For socially vulnerable groups (orphans, students from low-income families, etc.), various support options are offered, including discounts on tuition and accommodation fees, scholarships and individual study plans. The university informs students about these opportunities through information events and university systems. In addition, students with disabilities receive personalized support, including counseling, adapted study materials and the possibility of flexible study arrangements, such as extended completion times for assignments or exams. One student with a disability is currently enrolled in the program and benefits from financial support and an individualized study plan. The university strives to create an inclusive and supportive learning environment for all students.

ANALYSIS AND CONCLUSION (regarding 4.1.)

Ad. 4.1.1. The Panel acknowledges that the teaching and learning process in the Biology and Genetics programme is designed to meet the needs of students and ensure the achievement of the intended learning outcomes. The SER emphasizes the use of a variety of teaching methods (e.g., lectures, seminars, laboratory work, practical exercises) and an accumulative assessment system that facilitates the monitoring of students' progress. The programme also emphasises independent learning and teamwork through assignments and projects, with student development supported by

regular feedback. During the visit, it was confirmed that students appreciate the variety and flexibility of teaching methods, and the academic environment appears to be conducive to learning.

Ad. 4.1.2. The university's commitment to inclusion is reflected in its measures, such as the "University of Inclusive Opportunities" plan, which ensures that students with disabilities or from socially disadvantaged backgrounds have access to study. The panel found that adapted study conditions are in place, including appropriate furniture, equipment, and accessible facilities. Support services for socially disadvantaged students, such as financial support and individual study plans, were recognised as available. In addition, the university provides tailored support for students with special needs, including flexible study arrangements and extended deadlines.

4.2.	There is an effective and transparent system for student assessment, progress monitoring, and assuring academic integrity

FACTUAL SITUATION

4.2.1. Monitoring of learning progress and feedback to students to promote self-assessment and learning progress planning is systematic

The Self-Evaluation Report (SER) presents a systematic approach to monitoring student progress and providing feedback to promote self-assessment and improve study planning. Monitoring is conducted in several phases, including analysis of first-year student preparation, course enrollments, reasons for non-attendance at examinations, mid-term and final evaluations, and feedback from periodic surveys. The university uses this data to improve student organization, promote student engagement, and provide academic, social, financial, and psychological support. Students are encouraged to self-monitor by regularly reviewing their study plans, assessments and feedback. Results of mid-term exams and written exams are discussed within two weeks and published on the university intranet within three working days. Teachers discuss assignments with students individually or in groups and give them feedback on strengths and areas for improvement. The Faculty of Natural Sciences administration is responsible for monitoring student performance and organizing support, including counseling, academic mentoring, and addressing underperformance. Teachers also use the Moodle e-learning platform to track student progress and provide individualized support, such as additional advising or extra assignments. Students who miss exams or assignments are contacted to identify problems and offer support, with the option of retaking exams or taking a leave of absence if necessary. The SER does not provide detailed information on how the system ensures consistency and fairness between different subjects or teachers in terms of feedback and progress monitoring. There is little mention of how the university measures the impact of its feedback mechanisms or how it assesses the overall quality of the monitoring process.

4.2.2. Graduate employability and career are monitored

According to SER, the university assesses employability through various channels, such as engaging with alumni through clubs, newsletters and career mentoring platforms. Alumni are actively involved in the study programme committees to ensure that the curriculum is aligned with the needs of the job market. The university conducts regular alumni surveys to track employment and career development and publishes the results online. The Career Centre also assists students with career planning and provides feedback on alumni/graduates' satisfaction with their education and career preparation. Graduates of the Biology and Genetics programme find employment in a variety of fields, including biomedicine, biotechnology, and agriculture, and many go on to study at the master's

level. The employment rate of graduates is between 45% and 55%, with some occupying highly skilled positions and others work in less skilled jobs. Graduates are positive about the university's contribution to their career preparation, with practical exercises, independent tasks and international experience seen as particularly useful. For a more objective assessment of SER in relation to graduate employability, additional information on specific student support services, a comparison of employability with other institutions and more detailed data on graduate employment (e.g., by sector, job satisfaction and geographical location) would be useful. SER could also benefit from clearer explanations of how the programme aligns with national and regional labour market needs. Finally, more transparency in graduate tracking (e.g., annually and how long after graduation?) and survey response rates would improve the assessment of career outcomes.

4.2.3. Policies to ensure academic integrity, tolerance, and non-discrimination are implemented

The SER outlines the policies to ensure academic integrity, tolerance, and non-discrimination at VMU, and refers to key documents such as the VMU statutes, the code of ethics, the plagiarism prevention policy and the VMU gender equality plan. The university implements specific measures to address dishonest behaviour, including the use of plagiarism detection programs such as *Identific* for essays, term papers and dissertations. The Biology and Genetics program values academic integrity and provides guidance on proper citation and plagiarism avoidance from the first year onwards. No violations of these principles were reported during the period under review. However, the SER could provide more detailed information on how the effectiveness of these principles is assessed and how violations, if any, are systematically followed up and dealt with. In addition, it could provide more detail on the frequency and extent of awareness-raising campaigns regarding academic integrity and non-discrimination for both students and staff.

4.2.4. Procedures for submitting and processing appeals and complaints are effective

The SER describes the procedures for the submission and consideration of appeals and complaints in the study process, in particular through the VMU Regulations of the Dispute Resolution Commissions. These regulations allow students to submit appeals against the evaluation of learning outcomes and/or assessment procedures, with various outcomes, such as a change of assessment or the opportunity to retake the examination if violations are found. The Biology and Genetics program reports that no appeals or complaints were filed during the reporting period reviewed, which it attributes to factors such as small student groups, positive teacher-student relationships, and proactive conflict avoidance measures. Written work is kept on file for one year and students have the opportunity to view their exam grades and appeal if they disagree with the grade. However, the SER could provide information on whether the program tracks informal complaints or complaints that do not result in formal appeals and how they are handled. In addition, the lack of recorded appeals could indicate a lack of student awareness or engagement with the process, which may warrant further investigation.

ANALYSIS AND CONCLUSION (regarding 4.2.)

Ad. 4.2.1. The SER outlines a systematic approach to monitoring student progress, utilizing a variety of assessment methods such as mid-term exams, surveys, and feedback mechanisms. The regular publication of results and individual feedback allows students to track their progress, and the use of Moodle for monitoring also provides individualized support. While the panel agrees with the overall

structure for monitoring progress, it was noted that the effectiveness of the feedback mechanisms across different subjects could be further clarified. Students generally reported being satisfied with the level of feedback and support, though the lack of recorded appeals or complaints might suggest limited awareness or engagement with the processes in place. The panel recommends more transparency in how feedback is tracked and the overall consistency of monitoring, especially in ensuring fairness across different courses and instructors.

Ad. 4.2.2. The SER highlights the university's efforts to track graduate employability through contacts with alumni, career mentoring platforms, and cooperation with employers such as Thermo Fisher Scientific, Lithuanian Research Center for Agriculture and Forestry, etc. The employment rate of graduates is reported to range from 45% to 55%, with many graduates going on to pursue a Master's degree, according to alumni and faculty. During the visit, stakeholders (students, alumni) mentioned that practical experience is highly valued by students. However, the panel noted that the career paths of graduates could be tracked in more detail, including sector-specific data, job satisfaction and geographical distribution. A clearer link between the programme's learning outcomes and regional/national labour market needs could further enhance students employability. Transparency regarding graduate tracking practices, including survey frequency and response rates, could also contribute to a more accurate assessment of employability.

Ad. 4.2.3. SER emphasizes the importance of academic integrity, tolerance and non-discrimination through policies such as the VMU Code of Ethics and anti-plagiarism measures. During the visit, students and staff confirmed that academic integrity is a core value of the degree programme. The panel also noted that the procedures for preventing and addressing violations were well implemented. However, the panel suggests that further detail on how these measures are actively communicated to students and staff, including awareness campaigns, could be beneficial.

Ad. 4.2.4. The SER emphasizes the importance of academic integrity, tolerance, and non-discrimination through policies such as the VMU Code of Ethics and anti-plagiarism measures. During the visit, both students and staff confirmed that academic integrity is a fundamental value of the degree programme. The panel observed that the procedures for preventing and addressing violations are well established. However, the panel recommends providing more detailed information on how these policies are actively communicated to students and staff, particularly through awareness campaigns. Additionally, clarity is needed regarding the appeal process, ensuring that students are fully informed of their rights and understand how the process works. The Panel also suggests that more transparency is needed about how the Dispute Resolution Commission operates, including how often it is involved, what types of complaints or appeals it usually deals with and how students can be sure that their complaints will be dealt with fairly. The SER mentions that no appeals or complaints have been filed in the last three years and the Panel believes that further insight into this area would be valuable to assess the effectiveness of the current system.

AREA 4: CONCLUSIONS

AREA 4	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle			X		

COMMENDATIONS

1. Inclusive learning environment: The university's commitment to inclusion is evident in its measures to support students with disabilities and those from socially disadvantaged backgrounds. The availability of adapted study conditions, tailored support services, and flexible study arrangements ensures that all students have access to equal opportunities for success.

RECOMMENDATIONS

To address shortcomings

1. Improve graduate tracking: While the university tracks graduate employability through alumni networks and career mentoring platforms, more detailed tracking is recommended. The Panel suggests gathering sector-specific data, job satisfaction, and geographical distribution of graduates. This information would help to improve the programme's alignment with labour market needs and better inform future graduates.
2. Improve clarity of the appeals process: Ensuring that students are fully informed about their rights and the appeal process is crucial. A more detailed explanation of the procedures, along with proactive communication, could help students navigate the system more effectively and feel confident in addressing any issues or concerns they may have.

For further improvement

1. Increase transparency in feedback and assessment practices: To further enhance the monitoring of student progress, the university could consider providing a more transparent overview of feedback practices, including how it is collected, tracked, and utilized across various subjects. Regular updates and clear communication about the feedback process could contribute to a more consistent and effective learning experience.
2. Awareness campaigns for academic integrity: In addition to the existing measures, the university could implement more comprehensive awareness campaigns on academic integrity to ensure that students and staff fully understand the policies and the importance of maintaining high ethical standards in academic work.

AREA 5: TEACHING STAFF

5.1.	Teaching staff is adequate to achieve learning outcomes

FACTUAL SITUATION

5.1.1. The number, qualification, and competence (scientific, didactic, professional) of teaching staff is sufficient to achieve learning outcomes

The average workload of an academic teacher employed full-time is 1584 hours per year, giving 36 hours per week. However, this includes contact work with students, non-contact work (preparation for teaching), carrying out research and experimental development, competence development and organisational activities. This rule gives no less than 450 contact hours per year for a professor, 500 hours for an associate professor, 550 hours for a lecturer, and 600 hours for an assistant. The courses of the Biology and Genetics field are taught by 17 academic teachers. This results in the teacher-student ratio of 1:6. The program has between 12 and 34 students per course, in different

classes. Depending on the number of students in the course, student groups are formed, with seminar group sizes ranging from 15 to 30 students and laboratory work groups from 12 to 15 students. During the last 3 years, from 6 to 10 academic teachers supervised bachelor's theses, depending on the number of students in the program (22 students graduated in 2021-2022, 12 in 2022-2023, and 25 in 2023-2024). Usually, a single teacher supervises 2−4 students, and one teacher supervises no more than 5 bachelor theses per semester.

All teachers have a scientific degree and at least three years of experience in life sciences research. In the 2021–2024 period, academic teachers published over 100 articles in international journals, and over 100 articles in local journals. Moreover, they presented over 200 communications at international and national conferences. Most academic teachers have publications in international journals, but a few presented only papers in local journals and/or conference communications.

ANALYSIS AND CONCLUSION (regarding 5.1.)

The academic teachers are scientifically well-qualified which is confirmed by publishing a hundred or so articles in international journals in recent years. However, their research potential could be more visible and more recognized if more research papers are published in such journals rather than local ones. This conclusion is corroborated by the fact that in the recent period, over one hundred publications were disseminated only locally. Indeed, although most teachers whose names are included in the table providing a list of teaching staff of the field courses have publications in international journals, in a couple of cases (Dr. Daiva Ambrasienė and Dr. Vytautas Mažeika) only papers in local journals and/or conference communications are presented as major research works during last 5 years. A somewhat restricted research activity of teachers might be explained by the relatively high number of teaching hours, especially contact hours, per year which is between 450 and 600 (depending on the position). On the other hand, a system of partial dependence of the salary level on publication activity of academic teachers has been introduced which should stimulate them to increase the research activity. Nevertheless, the potential of academic teachers is relatively high which in combination with availability of new, well-equipped laboratories, provides a good platform for developing high quality research. The research specializations of teachers correspond to courses they teach which makes very good conditions for effective realization of the study program.

5.2.	Teaching staff is ensured opportunities to develop competences, and they are periodically evaluated

FACTUAL SITUATION

5.2.1. Opportunities for academic mobility of teaching staff are ensured

Academic teachers of the Biology and Genetics study program participate in teaching and research visits to various countries, including Finland, France, Italy, USA, Croatia, Turkey, UK, Poland, Latvia, and Estonia. The teaching visits are usually conducted within the Erasmus+ program. In the 2021-2024 period, approximately 90% of the teachers participated in at least one visit. VMU also hosts visiting professors in the biology and genetics field from other universities. These professors typically come for short-term visits under the Erasmus+ mobility program and deliver open lectures to students. During the 2021-2024 period, 11 guest teachers taught at the Faculty of Natural Sciences. VMU provides special funds aimed at promoting international mobility. There are competitions for collaborative research projects, PhD study visits, and priority research projects (which can also fund travel and internships for members of research teams).

5.2.2. Opportunities for the development of the teaching staff are ensured

VMU Professional Competence Development Centre introduced a professional development system. The University-provided possibilities for professional development are free of charge for VMU teachers. Eight trainings are held per month on average, and about 40 trainings are offered in total. These trainings and courses were focused on enhancing the involvement of students in research, application of innovative teaching and learning methods, distance teaching and learning, providing effective feedback to students and evaluating learning achievements, updating the content and improving the quality of studies. Among teachers involved in the biology and genetics program, 6 teachers participated in such courses or training in the academic year 2021/2022, 8 teachers in 2022/2023, and 11 teachers in 2023/2024. These teachers are also constantly enhancing their foreign language skills, aiming to reach C1 and C2 levels.

ANALYSIS AND CONCLUSION (regarding 5.2.)

The possibility of mobility of the teaching staff is well-developed. There are various programs allowing either short or longer visits in academic institutions in different countries to gain new experience and enhance research and teaching skills. Collaboration with several countries (Croatia, Estonia, Finland, France, Italy, Latvia, Poland, Turkey, UK, and USA) is especially visible. Importantly, during the last 4 years, about 90% of the teachers conducted at least one international visit which indicated a high mobility rate. A special fund, established for promoting international mobility, definitely facilitates this kind of activity of academic teachers.

A program of development of the teaching staff is rich, and provides a great opportunity to increase different skills and competencies. There are forty or so courses and training offered which are focused on various subjects, definitely useful in enhancing didactic skills of the teachers. They include methods of involvement of students in research, possibilities to accommodate innovative methods of teaching and learning (between others, distance teaching and learning), and others. Between 6 and 11 teachers (out of 17 involved in the study program realization) participated in such courses and training during the last three years which reflects quite well the activity of the teaching staff in developing their teaching skills.

AREA 5: CONCLUSIONS

AREA 5	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. A high potential of academic teachers which in combination with availability of new, well-equipped laboratories, provides a good platform for developing high quality research.
2. A very well-developed system for promoting mobility of the teaching staff and broad opportunities to increase different skills and competencies of the teachers.

RECOMMENDATIONS

To address shortcomings

None

For further improvement

1. Further encouraging academic teachers to disseminate their research results in international journals and books rather than in local ones.

AREA 6: LEARNING FACILITIES AND RESOURCES

6.1.	Facilities, informational and financial resources are sufficient and enable achieving learning outcomes

FACTUAL SITUATION

6.1.1. Facilities, informational and financial resources are adequate and sufficient for an effective learning process

The SER highlights that the Biology and Genetics programme at VMU benefits from well-equipped classrooms, modern laboratories, and specialised equipment that support lectures, practical work, and research. Regular upgrades and partnerships with external organisations provide access to advanced technologies and fieldwork opportunities. The library offers extensive digital and physical resources, supporting flexible and inclusive learning. Blended and online learning is facilitated through strong IT infrastructure and platforms like Moodle. The on-site visit to various laboratory and teaching facilities confirmed most of the impressions from the SER. At the request to see any active learning classrooms we were shown the so-called Steam Lab which was built for education of school kids and kindergardeners as well as teacher training.

6.1.2. There is continuous planning for and upgrading of resources.

The VMU follows a structured process for resource renewal, with annual plans guiding updates based on student and staff feedback. According to the SER, about 20% of computers are replaced yearly, and software is regularly updated. New laboratory facilities and equipment are consistently added, ensuring alignment with technological advancements. Ongoing investments, supported by university funds and external partnerships, help maintain and expand resources. Efforts to secure additional funding through national and international competitions further enhance the programme's capacity for growth and modernisation.

ANALYSIS AND CONCLUSION (regarding 6.1.)

The Biology and Genetics programme at VMU benefits from strong infrastructure, with well-equipped classrooms, modern laboratories, and specialised equipment that effectively support teaching and research. Continuous resource renewal, driven by annual planning and stakeholder feedback, ensures that the programme stays current with technological advancements. Regular upgrades to computer equipment and software, alongside investments in new lab facilities, demonstrate a commitment to maintaining high standards. External partnerships and funding initiatives further strengthen the sustainability and growth of the programme.

The site visit confirmed that student-active learning is already well-integrated into the practical and laboratory components of the curriculum. However, for the theoretical aspects of the programme, active learning spaces appear to be limited. The Steam Lab, primarily designed for schoolchildren and teacher training, was presented as an example of an active learning environment. While this space reflects VMU's broader commitment to interactive education, there may be a need to develop dedicated active learning classrooms specifically tailored to the theoretical components of the programme.

Overall, the programme's facilities and resources are adequate and well-maintained, with strong hands-on learning opportunities. Expanding active learning environments for theoretical courses could further enhance the overall student experience.

AREA 6: CONCLUSIONS

AREA 6	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. Well-developed infrastructure, with well-equipped classrooms, modern laboratories, and specialised equipment that effectively support both the teaching process and research.
2. Regular upgrades to computer equipment and software, alongside with investments in new laboratory facilities.

RECOMMENDATIONS

To address shortcomings

None

For further improvement

1. Create additional learning facilities for active learning for university students.
2. The report states that funding is consistently allocated for laboratory work, reagents, and equipment. While this is positive, the sustainability of this funding, especially in light of potential economic changes or shifts in governmental or university priorities, must be secured. The suggestion to pursue additional external funding highlights that while current resources are sufficient, there may be underlying financial limitations that require external supplementation.

AREA 7: QUALITY ASSURANCE AND PUBLIC INFORMATION

7.1.	The development of the field of study is based on an internal quality assurance system involving all stakeholders and continuous monitoring, transparency and public information

FACTUAL SITUATION

7.1.1. Internal quality assurance system for the programmes is effective

The internal quality assurance system at VMU ensures continuous improvement through regular planning, evaluation, and updates, aligning with national and European standards. Study courses are assessed every three years to maintain relevance. The Faculty of Natural Sciences and the Study Programme Committee, including faculty, students, and social partners, play key roles in programme development and feedback analysis. The SER claims that this inclusive approach keeps the curriculum responsive to academic and labour market needs. Annual assessments and external reviews drive enhancements, supported by ongoing investments in facilities and resources. The system promotes transparency, accountability, and high academic standards.

7.1.2. Involvement of stakeholders (students and others) in internal quality assurance is effective

The internal quality assurance system at VMU involves stakeholders, including students, faculty, social partners, and alumni, in continuous programme improvement. Students contribute through surveys, direct feedback, and representation on committees and councils, ensuring their voices shape curriculum and teaching practices. Faculty engage in quality enhancement through departmental meetings, surveys, and professional development initiatives. Social partners provide insights on labour market relevance and practical skills, while alumni offer feedback through surveys and dedicated meetings. According to the SER, structured mechanisms, such as periodic electronic surveys and committee discussions, gather and integrate feedback from all groups. This collaborative approach ensures that programmes remain aligned with academic standards and market demands, fostering ongoing development and responsiveness. The on-site interviews with students indicated that the post-course surveys are systematically performed but the student participation is often low and may therefore not be reliable or staff may think they are not representative.

7.1.3. Information on the programmes, their external evaluation, improvement processes, and outcomes is collected, used and made publicly available

VMU employs a structured approach to monitoring and improving the Biology and Genetics programme through annual and external evaluations. According to the SER, regular data collection and analysis ensure that the programme aligns with research advancements, labour market demands, and stakeholder expectations. Statistical data on student admissions, mobility, graduate employment, and teaching quality are systematically reviewed by the programme committee and faculty administration.

Further, the SER states that feedback mechanisms play an important role in the VMU quality assurance. Surveys of students, teachers, alumni, and employers, along with targeted discussions and interviews, help identify strengths and areas for improvement. The university has taken concrete actions based on this feedback, including increased student involvement in research, laboratory equipment upgrades, and improvements in assessment feedback mechanisms.

Finally, the SER highlights that the implementation of improvement plans has led to tangible outcomes, such as higher student participation in research, new laboratory resources, and enhanced feedback systems. While student satisfaction ratings fluctuated over the reporting period, they have generally trended upward, reflecting the impact of ongoing quality improvements. Consistent investments in faculty expertise, laboratory work, and international opportunities continue to strengthen the programme.

The evaluation committee observed inconsistencies between the English and Lithuanian versions of the VMU website regarding the study programme. This issue was raised during one of the on-site meetings, and we emphasize it again here. It is crucial that all prospective students, whether native or international, receive the same accurate and consistent information.

7.1.4. Student feedback is collected and analysed

The SER details how VMU systematically collects and analyses student feedback through university-wide surveys (via the STUDIS system), programme-specific evaluations, discussions, and interviews. Teaching and learning quality in the Biology and Genetics programme has remained consistently high, although there have been fluctuations influenced by factors such as the transition between remote and in-person learning.

Students positively rate the quality of teaching, laboratory work, and study organisation. They appreciate the professionalism of teachers, flexible course schedules, and opportunities for practical training and foreign language learning. However, key areas for improvement identified between 2021 and 2023 included the need for stronger integration of theory and practice and more comprehensive feedback on assignments. In response, the programme committee revised assessment criteria to enhance feedback and improved alignment between lectures and laboratory work to reinforce theoretical and practical connections.

Additionally, VMU has taken steps to refine internal quality assurance responsibilities and increase student participation in programme development. Updates to the VMU Quality Manual in 2022 clarified the roles of faculty, administration, and students in quality assurance. Efforts to boost student engagement include semesterly teaching and learning surveys, increased student representation on faculty councils and programme committees, and regular discussions with students and social partners to inform programme improvements. These initiatives demonstrate a commitment to continuous quality monitoring and responsive adaptation based on stakeholder feedback.

ANALYSIS AND CONCLUSION (regarding 7.1.)

VMU has established a structured and effective internal quality assurance system that supports continuous programme monitoring and development. The system aligns with national and European higher education standards and includes multiple levels of decision-making the Study Programme Committee, the Department, the Faculty Dean, and the Faculty Council ensuring a comprehensive and collaborative approach. Responsibilities are clearly defined among Study Programme Committee members, reinforcing accountability and transparency in the quality assurance process.

Stakeholder involvement is a key feature of VMU's quality assurance system. Students, faculty, and social partners contribute through surveys, discussions, and committee representation. Regular surveys provide insights, allowing social partners to share perspectives and contribute to curriculum development. However, on-site interviews revealed low student participation in post-course surveys, which may limit the representativeness of feedback. Additionally, while feedback from social partners is valued, the SER acknowledges that it could be more frequent and structured, prompting plans for regular discussions to enhance engagement.

VMU effectively collects and utilizes feedback data to inform programme improvements. The Study Programme Committee uses results from surveys and external evaluations to refine course content, enhance student support, and upgrade laboratory facilities. The dissemination of survey results

across faculty and stakeholders ensures transparency. However, public information inconsistencies, particularly between the English and Lithuanian versions of the university website, were noted during the evaluation. This may create confusion for prospective students, particularly international applicants, and should be addressed to strengthen transparency.

Conclusion: The aim of developing the field of study through an internal quality assurance system involving all stakeholders, continuous monitoring, transparency, and public information is mostly met, with some areas for further enhancement, especially increasing the engagement of students in filling surveys and increasing social partners' feedback.

AREA 7: CONCLUSIONS

AREA 7	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle			X		

COMMENDATIONS

None

RECOMMENDATIONS

To address shortcomings

1. Public information inconsistencies (between English and Lithuanian versions of the website) should be addressed to ensure prospective students receive accurate and uniform details about the programme.

For further improvement

2. Low student survey participation reduces the reliability of feedback. Efforts should be made to increase engagement, ensuring that student perspectives are fully represented.
3. Social partner feedback, while valuable, could be more frequent. The planned introduction of structured discussions and regular meetings is a step in the right direction.

V. SUMMARY

The review panel appreciates the efforts of VMU to improve the programme in response to the recommendations indicated in the previous evaluation. The area evaluated previously as “satisfactory” (Intended and achieved learning outcomes and curriculum, and Study quality management and public information) are now evaluated as “good”. The area previously evaluated as “good” either kept the score or received now ranks of “very good”.

The major strengths of the programme are as follows:

- The programme effectively meets both national and international legal requirements, adhering to the necessary academic standards, including ECTS credits, course structure, and assessments.
- The programme is flexible and allows students to tailor their studies through elective courses, supporting individual academic and career aspirations.
- Students can gain knowledge and competences in diverse areas, related to the main subject (like biotechnology, environmental science, and management).
- The student support system is very well organized and works excellently.
- Mobility of students it at a very good level, with many opportunities in this field.
- The support for students with disabilities and those from socially disadvantaged backgrounds is very well-developed; there is an availability of adapted study conditions, tailored support services, and flexible study arrangements which ensures that all students have access to equal opportunities for success.

Still, the are some areas which needs improvement to make the programme even more effective and attractive. The major points to be improved include:

- Information about the English programme is not always updated, and there are inconsistencies between English and Lithuanian versions of the information available to public at this website. The English version of the programme structure should be regularly updated to reflect the latest changes made to the programme, ensuring that international students have access to accurate and consistent information.
- Too low level of transparency in course learning outcomes. More detailed and transparent course-specific learning outcomes should make it clear of how each course contributes to the overall programme goals, helping students to better understand how each course fits into their academic trajectory.
- Too weak integration of the topics in the field of genetics. The programme would benefit from further integration of genetics topics to align more closely with the programme’s title and meet employer expectations for a strong genetics foundation.
- Difficulty finding mentors for certain specialized topics by some students. This could be managed by expanding the pool of available mentors and providing more guidance for specialistic topics.
- Due to relatively small number of students years and limited job opportunities in some sectors, it should be beneficial to review the programme’s focus and ensure alignment with future industry needs, focusing on areas where there is greater demand and employment opportunities.
- The course listings on the university website is not always updated. The update should be more regular and the information on currently available courses and their content should always be available to students.
- The fraction of publications in local journals or publishers is still too high. Increasing the fraction of publications in international journals and/or publishers will elevate the level of visibility of VMU and will increase the attractiveness of this University to students.

- Too few students are involved in research projects. The number of such students should be increased.
- Success stories of student who graduated from VMU in Biology and Genetics are not highlighted sufficiently. Implementing seminars or communication campaigns on success stories from students who already finished the study program would be beneficial. Such seminars and/or workshops could guide students on how to apply the knowledge gained from their studies to launch their own businesses or acquire complementary skills for interdisciplinary expertise.
- Graduate tracking system is not fully efficient. Gathering sector-specific data, job satisfaction, and geographical distribution of graduates would help to improve the programme's alignment with labour market needs and better inform future graduates.
- The appeals process is not sufficiently clear. Students should be fully informed about their rights and the appeal process.
- Transparency of the practiced in feedback and assessment is not fully achieved. Providing a more transparent overview of feedback practices, including how it is collected, tracked, and utilized across various subjects should enhance the monitoring of student progress.
- External funding is not at the optimal level. Pursuing additional external funding should minimize risks for effective education and research if financial limitations occur.
- Low rate of student participation in surveys which reduces the reliability of feedback. Efforts are recommended to increase engagement, ensuring that student perspectives are fully represented.
- Social partner feedback is too rare. More frequent events in this area are recommended.

Finally, the review panel would like to thank the team who prepared the self-evaluation report for the efforts and providing all the requested information, as well as the authorities and representatives of VMU for efficient organisation of the site-visit and engaging in discussions with the review panel.

VI. EXAMPLES OF EXCELLENCE

Examples of excellence in the Biology and Genetics programme at VMU are as follows:

- Flexibility of the programme which allows students to tailor their studies through elective courses; this supports individual academic and career aspirations.
- Opportunity for students to gain knowledge and competences not only in the main area of the study, but also in some other diverse areas, like biotechnology, environmental science, and management, which broaden the competences of graduates.
- Very well organized student support system.
- Intensive mobility of students, with many opportunities to visit various academic institutions.
- Very well-developed support for students with disabilities and those from socially disadvantaged backgrounds.