STUDIJŲ KOKYBĖS VERTINIMO CENTRAS
CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

MOLECULAR BIOLOGY
FIELD OF STUDY

OVERVIEW REPORT

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I. INTRODUCTION

Overview report is based on the external evaluation of the molecular biology field of study in the following Lithuanian Higher Education Institutions (HEIs):

- Vilnius University
- Vytautas Magnus University

The external evaluation was organised by the Centre for Quality Assessment in Higher Education (SKVC), Lithuania.

This Overview report focuses on the main findings of the external evaluation of the field of study from a general point of view. External evaluation reports containing more detailed information on the field of study in the relevant HEIs, including evaluation points, commendations, and recommendations, are available on SKVC's website.

Based on the findings of the evaluation, the decision has been made to give a positive evaluation to the following HEIs and cycles:

- Vilnius University and first and second study cycle
- Vytautas Magnus University second study cycle

Based on the findings of the evaluation, the decision has been made to give a negative evaluation to the following HEIs and cycles:

- Vilnius University and first and second study cycle
- Vytautas Magnus University and second study cycle

Upon receiving a positive evaluation, SKVC decides to grant full accreditation to the field of study and cycle for a period of 7 years.

II. OVERVIEW BY EVALUATION AREAS

This section of the Overview report highlights the overarching observations made by the expert panel regarding the positive aspects of the Molecular biology field of study in Lithuanian HEIs, as well as areas identified for improvement.

1. STUDY AIMS, LEARNING OUTCOMES AND CURRICULUM

The study programs in Molecular Biology at evaluated Lithuanian HEIs are well designed to meet the needs of Lithuanian society and the labour market. These programs stand out for their comprehensive approach, relevance and collaboration with social partners, which guarantees the training of highly educated professionals in the field of life sciences. The specialisations offered are well placed in Lithuanian biotechnological market and prepare graduates to face various challenges in the biotechnology, pharmaceutical, biomedical and other life sciences industries. This is especially important in the light of well-developed biotechnology sector in Lithuania which has also a great tradition, exemplified with a well-known “Fermentas” company which is now a part of a large biotechnological consortium, still developing quickly and requiring high-level specialists.

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

Latest developments in the fields of molecular biology and biotechnology are reflected in curricula of the first- and second-cycle molecular biology studies. New information is systematically added to existing courses, and from time to time new courses are introduced if some research breakthroughs occur. Students are routinely involved in research activities which an important and good practice, allowing them to achieve practical knowledge and competences, important in their further education and/or professional development.

3. STUDENT ADMISSION AND SUPPORT

The student selection and admission criteria are adequate and transparent. The admission processes align well with the learning outcomes and is conducted through the national system for applying to higher education institutions (LAMA BPO). Programmes offer substantial opportunities for academic mobility through well-integrated international exchange programs such as Erasmus+. These programmes provide comprehensive academic, financial, social, psychological, and personal support, significantly contributing to student success and well-being.

4. TEACHING AND LEARNING, STUDENT ASSESSMENT, AND GRADUATE EMPLOYMENT

Methodologies are designed to adapt to the needs of students and allow them to achieve the intended learning outcomes. Emphasis is placed on the importance of providing regular and effective feedback to students at all stages of the learning process. A wide range of support services are offered for students with disabilities, including counselling and adaptations to the environment and assessment methods. Individualised study plans have been established to adapt the learning process to the specific needs of each student with disabilities. The programmes demonstrate a strong commitment to academic integrity and non-discrimination. Procedures are clearly established to prevent and address cases of plagiarism and academic dishonesty, and an inclusive

and respectful environment is promoted for all students, with specific measures to support those with disabilities or special needs.

5. TEACHING STAFF

The number of teachers involved in the didactics processes and realization of curricular in the fields of molecular biology and biotechnology is sufficient, or even quite large (in some specializations). The teachers are active in conducting research and publishing their results which are often of high-, very high- or even top-level quality. The fluctuation of the teachers is very limited, reflecting the system of employment. The number of teaching hours per academic teacher per year is high which might sometimes restrict their effectiveness in conducting research to due time constraints.

6. LEARNING FACILITIES AND RESOURCES

The infrastructure is modern and well developed, and new initiatives in this field are still active. Lecture rooms, computer rooms, laboratories for practical classes, and research laboratories are well equipped. The libraries have large collections of books and journals and provide access to electronic publications. Such infrastructure provides very good conditions for teaching and conducting research. Planning and upgrading resources is more problematic, mainly due to restricted funds. Collaboration with biotechnological companies is active and visible. It is one of the good things facilitating modernisation of the equipment.

7. QUALITY ASSURANCE AND PUBLIC INFORMATION

These are well-established systems to ensure the high quality of Molecular Biology programs. Graduates are highly sought-after in the job market, both in Lithuania and abroad. Indeed, biotechnological companied are especially interested in employing the graduates. Social partners and alumni are involved in the programs' continuous improvements. The programs boast several strengths, including efficient quality management systems, teams of professional and high-level teachers, and strong communication within the academic community.

III. RECOMMENDATIONS

STRATEGIC RECOMMENDATIONS FOR THE MOLECULAR BIOLOGY FIELD OF STUDY

Strategic recommendations at an institutional level (for HEIs)

Although there is a group of top-level researchers, in some other instances, research activity of teachers should be increased, to facilitate the transmission of scientific results into the teaching process. This might be achieved partially by decreasing numbers of teaching hours per academic year per teacher which are now very high relative to those in other European countries.

To broaden the possibility of improving research competences by teachers, especially at the early stages of the career. This might be achieved by organising courses or workshops which might improve skills of the teachers in preparing grant applications, planning research activities, etc.

To incorporate learning student centered activities, among them. Project-based activities, simulations and virtual laboratories, problem-solving activities, digital portfolios, debates and discussions on relevant topics.

To enhance a more in-depth evaluation of the effectiveness of the study and assessment methods used to ensure that they really allow students to develop competencies, through continuous and formative assessment and the deployment of student-centred methodologies and the inclusion of periodic student feedback.

To stimulate and promote a culture of continuous training and development to improve the pedagogical skills of teaching staff, contributing to the quality of teaching and learning. This can only be achieved if the institution's management deploys active policies that promote an academic culture in which the commitment to the quality of teaching, permanent innovation and a teaching and learning model in which students occupy a central and protagonist position. It could also be beneficial to encourage even more the formative assessment and the deployment of student-centred methodologies promoted.

Strategic recommendations at the national level (for the Ministry of Education, Science and Sport)

To increase funding in the field of molecular biology and biotechnology. These areas are well developing and there are examples of spectacular successes in research, as well as examples of excellent teaching and learning effects which might server as evidences of world-class achievements by Lithuanian academics. However, without adequate and long-term financial support of these expensive areas, keeping the status of first-class country might not be possible in the future.

It advised the implementation of a systematic, comprehensive and periodic evaluation protocol of the quality of teaching activity as a structural measure that would contribute to the improvement of the quality of teaching. Along the same line, it is considered that only to the extent that academic promotion contemplates the quality of the teaching provided, this will be assumed by the teaching staff. Therefore, it is suggested that it be given a balanced weight with that of the quality of scientific production.

Recommendations on the evaluation process for Centre for Quality Assessment in Higher Education (SKVC)

The evaluation process is effective, and involvement of international experts provides a great opportunity to conduct this process at high level and without potential problems related to conflicts of interest.

There is a need for a more in-depth evaluation of the effectiveness of study and assessment methods. Implementing continuous and formative assessments, student-centered methodologies, and periodic student feedback is suggested to ensure that students develop the necessary competencies effectively.

Another recommendation is to keep the process smooth enough to ensure that the evaluation process up-to-date, meaning that the next evaluation event should occur just before or shortly after the expiration of the previous accreditation granted.