



CENTER FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

STUDY FIELD OVERVIEW REPORT
MEDICAL TECHNOLOGY
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I. INTRODUCTION

This report is based on the external quality evaluation of the *Medical Technology* study field in Lithuanian Higher Education Institutions (HEIs): *Kaunas University of Applied Sciences (Kauno kolegija)*, *Kaunas University of Technology*, *Klaipėda University*, *St. Ignatius of Loyola University of Applied Sciences (Šv. Ignaco Lojolos kolegija)*, *Vilnius University of Applied Sciences (Vilniaus kolegija)*, and *Vilnius University*.

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

Comprehensive external evaluation reports including strengths and weaknesses and concluding with some recommendations were prepared for Medical Technology study field in each evaluated HEI (separately for first and second cycle) and included evaluation marks. This overview focuses on the main findings of the external evaluation of the Medical Technology study field from a general point of view.

Based on the findings of Medical Technology study field evaluation, expert panel have come to a decision to give positive evaluation to all six evaluated HEIs.

On the basis of external evaluation report of the study field, SKVC takes a decision to accredit study field either for 7 years or for 3 years. If the field evaluation is negative, study field is not accredited.

II. STUDY FIELD OVERVIEW BY EVALUATION AREAS

Overall observations by the expert panel regarding the most positive aspects of the study field of Medical Technology in Lithuanian HEIs, as well as areas in need of improvement.

3.1. INTENDED AND ACHIEVED LEARNING OUTCOMES AND CURRICULUM

The most positive aspects related to the study field of Medical Technology in Lithuania can be described as: 1) innovative and prospective 2) attractive and job-oriented.

It is noticeable that Medical Technology field study programmes are aligned with the needs of the society and labour market, they have close link to professional societies and social partners. Most of programmes are offering the possibility for students to individualize their studies.

Better harmonization of learning outcomes between available study programmes can be recommended and learning objectives should be expressed in terms of what students are able to do after graduation, and their practical skill set should broaden by providing courses on practical skills.

Most programmes are well developed and implemented according to international standards. They have their place among other study programmes and represent advanced curriculum. In most cases, academic depth is present, especially in graduate programmes, and examples are “Systems Biology” study programme at VU and “Medical Physics” study programme at KTU. Each evaluated programme has its practical component and most HEIs are applying up-to-date teaching approaches.

3.2. LINKS BETWEEN SCIENCE (ART) AND STUDIES

In general, the content of the studies is well aligned with the latest scientific and technical developments of Medical Technology, majority of faculty members are actively involved in the research and students participate in the assigned research projects.

Some of the programmes could benefit from more extensive investigation of innovation and applied research in the field of information and communication technology, in particular by highlighting the benefits of artificial intelligence and data science.

3.3. STUDENT ADMISSION AND SUPPORT

It is clear from the evaluation process that significant number of students is admitted each year into Medical Technology field oriented programmes, and students take advantage of the academic, financial and psychological assistance.

The procedures for the recognition of foreign qualifications, part-time studies and prior non-formal and informal learning are included and students are able to use this opportunity.

However, the majority of accepted students in these programmes are native students from Lithuania. Students from abroad are not very attracted to this field of Medical Technology studies and more attention should be given to the marketing.

Overall, for all of the programmes a better publicity should be considered to ensure the growth in the number of students.

3.4. TEACHING AND LEARNING, STUDENT PERFORMANCE AND GRADUATE EMPLOYMENT

Across of all evaluated programmes, the teaching and learning process takes into account the needs of the students and enables them to achieve the intended learning outcomes.

It has been noticed that some advancement in technical skills development and availability of suitable software programs for students’ training should be recommended.

For example, “Radiology” programme’s teaching materials should be enhanced with special programs for radiology to advance competencies in clinical safety and nursing skills.

Another example – “Biomedical Diagnostics” programme could be enhanced with materials and training focus on practical skills development in the field of bioinformatics seeking to enhance the competitiveness of future graduates in the labour market.

3.5. TEACHING STAFF

The teaching staff in Medical Technology field has an appropriate knowledge and skills to teach laboratories, seminars and deliver lectures. Overall, the main asset of teaching staff is represented by the experienced faculty and majority of lecturers that have both strong theoretical and practical experience, active scientific engagement and multiple publications (locally and internationally).

A better international academic mobility would be beneficial, and necessary funding should be improved. In addition, teaching staff across different programmes in Medical Technology field would benefit from the lecturers addressing recent developments of healthcare management and information/communication technology.

3.6. LEARNING FACILITIES AND RESOURCES

Most of the programmes in Medical Technology field are equipped with suitable and adequate learning facilities and with the physical, informational and financial resources of the field studies to ensure an effective learning process. Each of the evaluated programmes has showed an extensive network of partnerships which provides students with access to equipment and on-site training.

However, it has to be noticed that the majority of important technical training across the programmes are organized outside the University/College facilities, which indicates significant limitations for the programme to function more independently and to have more flexibility for strategic planning or future expansion.

Based on the specifics of professional training, most of the programmes would benefit from timely incorporation of specific software for the advancing of studies and would help to upgrade students' competencies in digital technologies according to their fields of studies.

Overall, the graduates in most of Medical Technology field programmes produce high-quality theses at both first and second cycle level. An appropriate engagement with local stakeholders (social partners) is evident, and some of them participate in the teaching process, provide internships, oversee projects and in many cases – offer the practical use of high cost equipment. Some alumni maintain a close relationship with their University/College.

3.7. STUDY QUALITY MANAGEMENT AND PUBLIC INFORMATION

It has been noticed that each programme has an internal quality assurance system in place by involving their stakeholders (students and social partners), and multiple documents and policies that regulate the implementation and monitoring of the studies are present.

It would be beneficial for some programmes to obtain suggestions from the feedback of field students and to re-assess them in order to implement accordingly. Also, the external communication in social media should include promotion of scientific and practical content of each programme, representation of achievements, changes and improvements in the

programme, including field of study, and its community, as well as promotion of the programmes under the evaluation.

Overall, majority of evaluated programmes are focused on the practical applicability of the learning outcomes preparing their graduates for today's labour market, and the content and the obtained competencies correspond to the latest scientific and technical developments.

III. RECOMMENDATIONS

MAIN STRATEGIC RECOMMENDATIONS FOR THE IMPROVEMENT IN MEDICAL TECHNOLOGY STUDY FIELD

- **Strategic recommendations at institutional level (for Higher Education Institutions):**
- Central administrations need to re-think how to increase students' interest and engagement in international mobility programs (e.g. by taking advantage of virtual mobility opportunities).
- Medical Technology field study programmes in Lithuania deserve better communication and marketing strategies through social media and other available channels, with the aim to:
 - increase study programmes' visibility among the stakeholders' groups;
 - strengthen international ambition and engage in international prestige building;
 - foster high quality international students' attraction;
 - to present more widely the success of the program and achievement of their graduates.
- There is also a growing need to re-think how teaching staff would be more engaged in long-term teaching, which would be beneficial for all Medical Technology field study programmes helping to improve the stability of experienced faculty, reduce the number of adjunct teachers, or lecturers, improve the student/faculty ratio by securing more faculty for long-term position, their involvement in research and better professional collaboration nationally and internationally.

- **Strategic recommendations at national level (for the Ministry of Education, Science and Sport):**
- Medical Technology field study programmes in Lithuania deserve a better attention in the planning process from the Ministry of Education, Science and Sport as they represent technology-based and science-oriented curriculum and may serve as important clusters for the knowledge distribution in all regions of Lithuania.
- International nature embedded in Medical Technology field study programmes represents a valuable strategic tool for future mobility of these and other inter-related programmes and can be used as a cornerstone for building highly recognised international collaboration and exchange of knowledge and experiences necessary for faculty and students.

- Interdisciplinary approach in advanced Medical Technology field study programmes (as example – Vilnius University “Systems Biology” study programme) can be widely expanded by creating European Network of Study Programmes in Systems Biology and attracting young scientists and students from other institutions to engage in this science and technology field with attractive vision into the future where application in genetics may interact with social science and practical application aspects as it leads to the improvement of population health.
- The positioning of Medical Technology field study programmes at different regions of Lithuania is creating some competition in regards of applicants for similar field of study, obtained degree and security of future job positions. The interconnection between regions by joining the resources, teaching staff expertise and accumulation of scientific equipment and other technological or digital resources would be beneficial for future higher national competence creation instead of competition between small number of students-based programmes.