



CENTER FOR QUALITY ASSESSMENT IN HIGHER EDUCATION



OVERVIEW REPORT FOR BIOENGINEERING STUDY FIELD

2022 year of the evaluation

Prepared by the chairperson of the expert panel:

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I. INTRODUCTION

The overview is based on the external quality evaluation of the *Bioengineering* study field in the following Lithuanian Higher Education Institutions (HEIs): *Vilnius Gediminas Technical University and Kaunas University of Technology*.

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 recommendations were prepared separately for first and second cycle field studies and included evaluation marks. This overview focuses on the main findings of the external evaluation of the *Bioengineering study field* from a general point of view.

Based on the findings of the evaluation, expert panel have come to a decision to give **positive** evaluation to the *Vilnius Gediminas Technical University* first and second study cycle and *Kaunas University of Technology* second study cycle of the *Bioengineering* study field.

On the basis of external evaluation reports of the study field SKVC takes a decision to accredit *Vilnius Gediminas Technical University* study field and first and second cycle for 7 years and *Kaunas University of Technology* study field and second cycle for 7.

II. STUDY FIELD OVERVIEW BY EVALUATION AREAS

Overall observations by the expert panel regarding the most positive aspects of the study field in Lithuanian HEIs as well as areas in need of improvement. The analysis covers all 7 evaluation areas.

3.1. Intended and achieved learning outcomes and curriculum

Bioengineering education, at both First and Second Cycle levels, is excellently aligned with the needs of industry both within Lithuania and elsewhere. The programmes reviewed, without exception, were highly praised by employers in terms of providing the knowledge, skills and intellectual flexibility that they required. The links with clinical partners was more mixed with some excellent examples, but also some areas for improvement.

3.2. Links between science (art) and studies

The level of research activity at the institutions was variable. However, there was research activity at an international level present in both institutions and the programmes of study ensured that both first and second cycle students were exposed to this research in a way that substantially benefitted their educational experience. Exposure to clinical practice was more variable.

3.3. Student admission and support

Student recruitment is transparent and fair with effective selection of students with the abilities to be successful on the programmes. Provision for students with disabilities is uniformly well thought out and comprehensive with access to specialist support and learning assistance. Similarly, in both institutions, there were well signposted routes for both academic

and welfare support. In one instance, there was evidence of a significant drop-out rate amongst first cycle students that seemed to be linked to high living costs. In terms of student mobility in bioengineering, Lithuania seems to be a destination country with more incoming than outgoing students. This should be viewed as a success in recruitment of international students.

3.4. Teaching and learning, student performance and graduate employment

There is strong evidence that students, across all programmes reviewed, attain high level competencies. They are self-confident, communicate well and are good at acquiring and developing new skills. As a result, they are highly employable with employers giving very positive feedback.

3.5. Teaching staff

The teaching staff are suitably qualified and enthusiastic and are appropriately deployed so that subjects are taught in appropriate class sizes throughout. There is good support for academic mobility from an Erasmus+ perspective and there was evidence of international partnerships that have a significant impact on the diversity of teaching. Diversity of the educational background of teaching staff was often quite low, with many staff having both studied and spent their entire career at the institution. Both institutions had significant facilities for continuous profession development in terms of pedagogical skills, although there was a mixed approach to take-up by individuals. One institution, in particular, demonstrated an academic culture where such development was a core value.

3.6. Learning facilities and resources

There was considerable evidence of significant investment in teaching facilities and infrastructure with access to workshop and creative facilities given prominence alongside mainstream areas such as teaching spaces and libraries. Likewise, there was strong evidence of the excellent use of online information systems for provision of teaching material, study guidelines and regulations and for communication with the students in terms of feedback.

3.7. Study quality management and public information

Both institutions had a strong culture of quality assurance at all levels with full engagement of all stakeholders from students to employers. Student performance was externally benchmarked by involving representatives of employers and external HEIs in assessment, particularly of project work. Student feedback is widely sought and acted upon.

III. EXAMPLES OF EXCELLENCE

Please give examples of excellence (if any) discovered while conducting the study field evaluation.

A consistent feature of all the programmes reviewed was the excellent way that links with local biomedical industry was leveraged to drive the taught curriculum and projects, but also in terms of the development of transferable and workplace skills. As a result, graduates from these programmes were highly employable and highly valued by employers.

IV. RECOMMENDATIONS

MAIN STRATEGIC RECOMMENDATIONS FOR THE IMPROVEMENT IN FORESTRY STUDY FIELD

Strategic recommendations for the Higher Education Institutions (at institutional level):

1. Low student recruitment was an issue for all programmes reviewed. There were several reasons for this, not least the COVID pandemic which had a particularly negative impact on recruitment of international students. These are all programmes that are very well aligned to the social and commercial needs of Lithuania and beyond. The Expert Panel was pleased to see continued strong institutional support for the programmes and plans to improve recruitment, and recommends that this is sustained.

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

1. There is no system in Lithuania for the professional accreditation of engineers to internationally recognised standards such as the Washington Accord through the International Engineering Alliance or Eur. Ing. through FEANI. This absence of professional bodies disadvantages Lithuanian graduates of engineering programmes in two important respects:
 - Such professional bodies review and accredit degree programmes to ensure both quality and relevance to the needs of the engineering profession.
 - Having an internationally recognised professional status greatly facilitates the mobility of engineers both within and outside Europe.
 - With particular reference to Bioengineering, professional accreditation can form an important component of quality control and patient safety in a clinical setting.

We, therefore, recommend that consideration be given to the formation of professional accrediting bodies and membership of one or more international qualification recognition schemes.

2. There is little room in the current study field evaluation format to evaluate the student journey through the programme. Whilst some of this information is requested and reviewed in terms of recruitment, there is none in terms of numbers of students passing each stage, numbers failing following reassessment, numbers dropping out for other reasons (and what those reasons might be) and so on. By providing this information, reviewers will be able to gain a much more complete understanding of where issues might arise.

We, therefore, recommend consideration be given to collection of student journey data.

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