STUDIJŲ KOKYBĖS VERTINIMO CENTRAS
CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

ELECTRONICS ENGINEERING FIELD OF STUDY

OVERVIEW REPORT

Prepared by the chairpersons of the electronics engineering field of study expert panels:

1. Dmitrijs Pikulins
2. Prof. László T. Kóczy
3. Sean Mc Grath

SKVC coordinator: Radvilė Blažaitytė

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I. INTRODUCTION

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

- Kaunas University of Technology (KTU)
- Klaipėda University (KU)
- Lietuvos inžinerijos kolegija | Higher education institution (LIK)
- Panevėžio kolegija | Higher education institution (PK)
- Šiaulių valstybinė kolegija | Higher education institution (ŠVK)
- Utenos kolegija | Higher education institution (UK)
- Vilnius Gediminas Technical University (VGTU)
- Vilnius University (VU)
- Vilniaus kolegija | Higher education institution (VIKO)

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.

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

Upon receiving a positive evaluation, SKVC decides to either grant full accreditation to the field of study and cycle for a period of 7 years or provide partial accreditation for a period of 3 years. If the field of study and cycle is given negative evaluation, it is not accredited.

II. OVERVIEW BY EVALUATION AREAS

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

1. STUDY AIMS, LEARNING OUTCOMES AND CURRICULUM

All nine evaluated HEIs align their study aims with national priorities, labour market needs, and European frameworks, preparing specialists for a technology-driven economy with increasing emphasis on digitalisation, practical skills, and interdisciplinary approaches. While institutions differ in focus from theoretical foundations to applied and regionally oriented studies they collectively offer solid programme structures and specialisation opportunities, supported by varying degrees of industry collaboration.

Across institutions, further improvement should focus on strengthening internationalisation, research and transversal skills, expanding industry involvement (especially in curriculum design and final projects), adopting innovative teaching methods, and ensuring systematic use of labour market feedback to keep programmes aligned with evolving technological trends.

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

The integration of research and education varies across institutions, reflecting differences in institutional focus, resources, and engagement strategies. Some institutions demonstrate strong links between study programmes and research infrastructure, actively involving students in applied, regional, or international projects and integrating research outcomes into curricula. Others maintain close ties with industry but show limited student research participation, while a few have less-developed research dimensions due to constrained staff engagement, although partnerships with local enterprises are beginning to lay foundations for greater integration, particularly at the bachelor level. Across the board, institutions are commended for their involvement in applied research, collaboration with industry, and efforts to align research activities with EU and regional strategic priorities. Well-equipped laboratories, modern infrastructure, and flexible learning environments further support practice-oriented education, providing students with opportunities to engage in competitions, develop technical skills, and apply advanced technologies.

Recommendations for further development emphasise the importance of consistently embedding R&D into teaching practices across all institutions, increasing student involvement in applied and international research activities, enhancing the international visibility of research outputs, and maintaining high levels of engagement with emerging technological trends. Strengthening staff mobility, leveraging industry partnerships for innovative teaching and research, and ensuring that research competencies are clearly reflected in second-cycle learning outcomes are also critical to keeping programmes forward-looking and aligned with evolving sector needs.

3. STUDENT ADMISSION AND SUPPORT

Admission processes across the reviewed institutions are transparent and aligned with national regulations, generally attracting well-prepared students through clear criteria and effective communication, as well as, in some cases, strong links with industry. Institutions provide a range of support services, including mentoring,

psychological counselling, and financial assistance, supported by centralized structures and digital platforms. However, the effectiveness of some support measures is not always evident, and institutions are encouraged to improve communication about available services and ensure equal access for all students. Further recommendations include strengthening mentoring systems, expanding academic counselling where needed, and making more systematic use of student feedback.

A key strength in study organization is the active involvement of students in feedback and decision-making processes, which leads to tangible improvements such as updated course content, introduction of new subjects, and adjustments to study organization. Teacher accessibility and flexibility are also well developed, with students benefiting from additional consultations and individualized arrangements.

For further improvement, institutions are encouraged to expand the use of Blended Intensive Programmes to promote more accessible and flexible international mobility opportunities, particularly for part-time students.

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

Teaching and learning across the evaluated institutions combine theoretical knowledge with strong practical application and close alignment to labour market needs. Approaches include project-based learning, real-life case studies, group work, and collaboration with external stakeholders, alongside flexible study formats and internships. Active cooperation with industry partners supports the relevance of skills and contributes to consistently high graduate employability, although in some cases the lack of student enrolment limits full evaluation. There is also a clear emphasis on workplace readiness and the integration of practical training throughout the study process.

Assessment methods are generally aligned with intended learning outcomes and communicated to students; however, challenges remain in ensuring consistency, particularly in group work evaluation, and in providing timely and structured feedback. Institutions are encouraged to strengthen feedback practices, including compulsory feedback on practical work, and to enhance academic integrity measures. The introduction of mid-semester monitoring systems could help identify at-risk students and provide timely support, while more inclusive assessment approaches should be considered for students with special needs.

Graduate employment outcomes are strong across institutions, supported by industry links and practice-oriented studies. However, there is a need to further develop systematic graduate tracking and better use employment data for programme improvement. Recommendations also highlight the importance of diversifying teaching methods across study stages, introducing more engaging approaches in theoretical teaching, expanding access to laboratories, and integrating employer and alumni feedback more effectively. Strengthening alumni networks, increasing the visibility of career pathways, and involving industry representatives especially in later stages of studies would further enhance student motivation and support successful transition into the labour market.

5. TEACHING STAFF

Across the evaluated institutions, teaching staff meet national qualification requirements and demonstrate strong academic and professional competence. Many institutions have a high proportion of PhD-qualified

staff, active involvement in research and publications, and meaningful links with industry that support practice-oriented teaching. Staff are generally motivated and engaged in enhancing the student learning experience, while good practices are in place to ensure staff sustainability, including the integration of early-career researchers and young academics.

Professional development is supported across most institutions through funding for research, pedagogical training, performance evaluation systems, and participation in mobility programmes. Opportunities such as internships in industry and international exchanges further contribute to staff development. However, in some cases, there is a need to strengthen support mechanisms to build research capacity and expand pedagogical competencies, particularly in areas such as digitalisation and student engagement.

While no major shortcomings are identified, several areas for improvement are evident. Institutions are encouraged to further promote internationalisation by increasing both incoming and outgoing staff mobility and improving English language competencies to better support international students and collaboration. Attracting younger academics remains an important priority to ensure long-term sustainability. Additionally, the effective utilization of highly qualified staff should be addressed, especially where student numbers are low, and greater attention should be given to increasing research output among less active staff.

6. LEARNING FACILITIES AND RESOURCES

Across the evaluated institutions, learning facilities and resources provide a solid foundation for electronics engineering education, combining modern laboratories, digital tools, and industry-aligned infrastructure. Well-equipped labs support both fundamental and advanced practical training, including emerging areas such as robotics, IoT, and EV technologies. Institutions also maintain cooperation with industry, enabling access to up-to-date equipment and real-world learning environments. In addition, digital platforms and simulation tools are increasingly integrated, supporting both in-person and remote learning, while library services and accessible facilities ensure support for diverse student needs.

Significant investments and modernization efforts are evident across institutions, particularly in laboratory infrastructure and applied learning environments. However, the level of digitalisation and resource development varies, and some facilities still require further investment to fully meet current technological demands. While most institutions demonstrate strong access to modern equipment and inclusive learning spaces, continuous upgrading is needed to ensure alignment with rapidly evolving industry standards.

For further improvement, institutions are encouraged to maintain and modernise laboratory equipment on an ongoing basis, diversify funding sources, and strengthen cooperation with industry through equipment donations or co-investment. Expanding digital learning resources, including specialised software and simulation tools, is also recommended. In addition, improving the availability and functionality of collaborative learning spaces and extending library services would further enhance student engagement and innovation.

7. QUALITY ASSURANCE AND PUBLIC INFORMATION

Internal quality assurance systems are in place across all institutions and are aligned with national and European frameworks. These systems are generally structured and include regular programme reviews, monitoring activities, and stakeholder participation. Students, employers, alumni, and social partners are

involved through programme committees, evaluations, and feedback mechanisms, helping to ensure the relevance and continuous improvement of study programmes.

While these mechanisms are well established, the effectiveness of feedback loops varies. Institutions are encouraged to better document and communicate how stakeholder input leads to concrete changes in curricula and study processes. More systematic approaches to collecting, analysing, and tracking feedback would strengthen transparency and accountability. It is also recommended to introduce clearer distinctions between short- and long-term improvements and to strengthen the use of structured tools for monitoring quality changes over time.

Public information is generally accessible and transparent, with several institutions providing detailed study-related data and maintaining informative websites. However, the visibility of quality assurance outcomes and the clarity of how feedback influences decision-making could be improved. Greater consistency in publishing QA results and strengthening data-driven communication would further enhance trust and accountability across the sector.

III. RECOMMENDATIONS

STRATEGIC RECOMMENDATIONS FOR THE ELECTRONICS ENGINEERING FIELD OF STUDY

Strategic recommendations at an institutional level (for HEIs)

1. Strengthen interdisciplinary and practical elements across study programmes, especially by increasing hands-on training earlier in the study cycle.
2. Improve integration of research into teaching, particularly at the college level.
3. Enhance graduate tracking systems and alumni engagement.
4. Invest in staff development, internationalisation, and student-centred pedagogical innovations.
5. Expand elective offerings in English and psychological support services.
6. Upgrade laboratory facilities and diversify digital teaching tools.

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

1. Launch national campaigns to boost interest in STEM fields.
2. Provide targeted funding for lab modernisation in regional colleges.
3. Support regional institutions in attracting academic staff and updating infrastructure.
4. Develop standards for EMI/EMC laboratories and a national framework for graduate tracking.
5. Promote applied research collaboration between universities, colleges, and industry.

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

1. Enhance transparency and comparability of evaluation results across HEIs.
2. Introduce tailored evaluation approaches for programmes with no active enrolment
3. Improve expert selection and training processes
4. Streamline site visit protocols for consistency and clarity
5. Support effective follow-up mechanisms for implementing recommendations and quality improvements