



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS
CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

ELECTRONICS ENGINEERING FIELD OF STUDY

Panevėžio Kolegija

EXTERNAL EVALUATION REPORT

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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 (5points), 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. Sean Mc Grath
2. Academic member: Assoc. Prof. Mariusz Stępień
3. Academic member: Assoc. Prof. Marios Kasinopoulos
4. Social partner representative: Saulius Stanevičius
5. Student representative: Ugnė Viktorija Paulikaitė

1.3. SITE VISIT

The site visit was organised on 8th April 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 a need for translation during the few meetings.

1.4. BACKGROUND OF THE REVIEW

Overview of the HEI

Panevėžys Kolegija (PK, College) is a public higher education institution established in 2002. As a state-funded college, PK focuses on providing practical, career-oriented studies through first-cycle and short-cycle programmes. The institution is structured into three main faculties—Biomedical Sciences, Social Sciences, and Technological Sciences—covering a broad spectrum of study areas. Alongside its educational mission, PK actively engages in applied research and innovation, supporting regional development. With over 1,200 students and a dedicated academic staff that includes a significant number of doctoral-level educators, the College emphasizes accessibility, quality education, and close ties with industry.

Overview of the study field

The Electronics Engineering study field at PK plays a strategic role within the Faculty of Technological Sciences, bridging academic knowledge with practical industry needs. The College positions this field as a driver for innovation, particularly in areas like robotics, automation, and renewable energy technologies. Through partnerships with businesses, participation in international projects, and a focus on applied research, the programme aligns with both regional economic priorities and PK's broader mission to foster modern, industry-relevant competencies. Continuous curriculum updates ensure that studies remain in step with technological advancements and labour market demands.

Previous external evaluations

Over the years, the Electronics Engineering programme has demonstrated a strong commitment to maintaining academic standards through regular external reviews. Evaluations conducted in 2005, 2008, and 2014 resulted in full accreditation for the maximum allowable period, highlighting the programme's quality and relevance. Responding to evolving industry trends and expert feedback, PK undertook significant updates, including rebranding the programme in 2023 to "Electronics Engineering and Robotics"—a move that reflects its modernized focus and enhanced alignment with current technological and professional expectations.

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:

List of additional sources of information included: Graduate Employment Data; Student Feedback & Involvement; Information about Student and Social partners Feedback & Involvement; Information about Quality Assurance Mechanisms; Information about Admission Trends & Programme Sustainability; Description of labs, technical equipment, and software relevant to the program; Examples of exams papers, practice final reports with evaluations; Learning Agreements for Outgoing and Incoming mobile students.

II. STUDY PROGRAMMES IN THE FIELD

First cycle/LTQF 6

Title of the study programme	Electronics Engineering and Robotics
State code	6531EX038
Type of study (college/university)	college
Mode of study (full time/part time) and nominal duration (in years)	Full-time, 3 years;
Workload in ECTS	180
Award (degree and/or professional qualification)	Professional Bachelor of Science in Electronics Engineering
Language of instruction	Lithuanian
Admission requirements	Secondary Education
First registration date	2002-08-30
Comments (including remarks on joint or interdisciplinary nature of the programme, mode of provision)	

III. ASSESSMENT IN POINTS BY CYCLE AND EVALUATION AREAS

The **first cycle** of the Electronical Engineering 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	2
3.	Student admission and support	2
4.	Teaching and learning, student assessment, and graduate employment	3
5.	Teaching staff	3
6.	Learning facilities and resources	3
7.	Quality assurance and public information	3
Total:		19

^{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.

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
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FACTUAL SITUATION

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

The "Electronics Engineering and Robotics" (EER) study programme at Panevėžys Kolegija is designed to address the dynamic demands of the modern labour market, particularly within the fields of electronics engineering, automation, and robotics. The programme aims to train professional bachelors equipped with knowledge of electronic theories, electronic system design, programming of controllers and industrial robots, and management of robotic technological processes, who are capable of installing, operating and designing electronic systems, programming controllers and robots, and managing robotic processes.

The relevance of the EER programme is validated by alignment with strategic Lithuanian and regional development documents, including the Public Administration Development Programme (2021-2030), the Regional Development Programme (2021-2030), and Panevėžys Regional Development Plan (2021-2027). This integration ensures that the Programme effectively achieves regional and national strategic objectives.

Additionally, ongoing consultations with social partners and employers confirm a significant shortage of qualified electronics and automation specialists in Lithuania.

As confirmed during the site visit, where the panel acknowledged strong employer support for the programme and the acute skills shortage in electronics and robotics. The demand for such professionals is high in the regional and national electronics industry. It highlights feedback from employers and social partners (Teltonika) that there are currently "thousands of vacancies" in electronics engineering in Lithuania. This high labour market demand justifies the relevance and timeliness of the objectives and results of the programme.

PK conducted a survey in 2023 among employers emphasising the growing need for specialists capable of handling automation, robotics, and mechatronics due to increasing industrial automation. Despite efforts to introduce robotics-focused studies, initial attempts to attract local students were unsuccessful, prompting a strategic shift towards targeting international students.

PK has conducted direct interviews with social partners and industry representatives to assess the relevance and need for the study programme. The social partners clearly highlighted the growing need of industry for qualified automation, robotics, programming and electronics specialists. This active involvement ensures that the programme remains relevant and meets the current needs of industry.

The content, objectives and results of the Programme are reviewed and updated based on social partner assessments, expert recommendations and direct feedback from industry. As discussed by the panel during the site visit, the inclusion of modern programming languages has been incorporated into the updates of the programme, demonstrating that the programme is responsive and flexible to changing market requirements.

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

The EER programme fully supports the PK mission to deliver higher education grounded in scientific knowledge and practical skills, fostering competencies relevant to a smart society. The EER programme is in line with the PK mission, as students acquire practical skills based on modern

technology. It focuses on electronics, robotics, automation and systems management. It contributes directly to the development of competences as stated in the mission of the PK.

PK's key strategic goal (2021–2026) is to enhance the "competitive advantage of Panevėžio Kolegija and its impact on regional and national development through innovative and high-quality studies and applied scientific activities." Therefore, programme is directly aimed at achieving this objective: it offers new programmes that integrates current technological developments; focuses on practical situations in robotics and industrial automation; Involves students and staff in research projects related to the needs of the regional industry and labour market; regularly updates the curriculum to keep it in line with regional economic developments and technological change.

The curriculum integrates applied research, encouraging student and teacher participation in projects driven by business and industry needs. The Study Programme Committee (SPC) ensures continuous updates to the curriculum based on labour market requirements and social partner feedback. However, a major issue is that the PK currently has no EER students and graduates at all.

ANALYSIS AND CONCLUSION (regarding 1.1.)

The EER programme demonstrates a strong alignment with both societal needs and the strategic goals of the PK. It addresses critical labour shortages in electronics engineering and robotics, contributing to Lithuania's economic growth. However, further engagement with international technological trends (e.g., AI, IoT) is recommended.

While the programme has good links with regional companies ([Adax](#), [TechVitas](#)), a clearer and more structured approach to the inclusion of practical projects or outsourced final projects from industry in the curriculum could improve students' direct preparation for employment. The SER makes general statements about the shortage of electronics engineers in industry, but a more detailed analysis (specific data trends, regional employment statistics and detailed forecasts of future skills) would help to sharpen the focus of the programme. The programme could also strengthen its strategic links with international technology companies and promote internships or practical training abroad.

PK needs to solve the major issue - there is the lack of students and graduates, and the actual performance of the PK severely limits its ability to fulfil the mission of a higher education institution in the face of labour shortages.

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
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FACTUAL SITUATION

1.2.1. Programmes comply with legal requirements

The *Electronics Engineering and Robotics (EER)* programme at Panevėžys Kolegija fully complies with the legal framework governing higher education in Lithuania. This includes adherence to:

In accordance with these regulations, the EER programme structure is as follows:

- **Total volume:** 180 ECTS credits, meeting the minimum requirement for first-cycle professional bachelor studies.
- **Field-specific studies:** 165 ECTS, which exceeds the minimum threshold of 120 ECTS stipulated for core field studies in engineering programmes.
 - This includes:
 - **33 ECTS credits** allocated for practical training, complying with Clause 20 of the Engineering Group Descriptor, which mandates substantial practical components.

- **9 ECTS credits** dedicated to the final thesis (applied project), fulfilling the requirement that final theses account for at least 9 ECTS in professional bachelor programmes.
- **Elective courses:** 15 ECTS credits, supporting student choice and personalisation in line with Clause 22 of the General Requirements Descriptor.

The *Electronics Engineering and Robotics* programme at PK integrates 15 ECTS credits of elective courses, supporting student choice and personalisation in accordance with Clause 22 of the General Requirements Descriptor. These electives include 6 ECTS from fully elective modules and 9 ECTS from a choice between "Internet Technologies" and "Smart Device Technologies," with options updated annually based on input from students and faculty to ensure relevance to technological trends and labour market demands. This structure allows students to tailor their studies to individual interests and career objectives, enhancing motivation and engagement. Elective courses contribute directly to the achievement of programme learning outcomes by developing specific competencies, deepening applied knowledge in emerging technologies, and fostering research and personal skills.

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

The aim of the study programme, to educate professional Bachelor degree graduates in Electronics and the intended learning outcomes (LO) are clearly outlined and well-articulated in the SER. The related comments in the SER and discussions with staff during the visits of laboratories, demonstrate a strong alignment with the needs of the local market, labour needs, society and business requirements. These aims and programme LO effectively communicate the purpose and direction of the programme.

On a positive note, the teaching/learning and assessment methods are clearly defined and thoroughly explained in the SER. For example, the teaching/learning methods described in SER includes Lectures, work laboratories, project supervision, presentations and seminars. The assessment methods also include tests, evaluation of laboratory work and projects, written exams and other similar assessments. These show a coherent alignment with the programme's aims and learning outcomes, ensuring that the evaluation of student performance is consistent with the intended educational objectives.

While the programme learning outcomes (LOs) are described, some of them require significant improvement. A concern that was also raised by the expert panel during the site visit, who emphasised the need for more discipline-specific outcomes tailored to Electronics Engineering and Robotics., with noticeable repetition where similar concepts are expressed using different wording. For example, the LO number 4 states, "Is able to solve engineering tasks by selecting appropriate methods, experimental, and production equipment". This LO is generic and not specific. It can be the same for any engineering discipline like Electronics, Mechanical, Chemistry, Marine engineering and others. This applies also for LO-7 which has the same content with other wording.

1.2.3. Curriculum ensures consistent development of student competences

The curriculum of the Electronics Engineering and Robotics (EER) programme is structured over six semesters and is designed to support the progressive development of student competences. The curriculum begins with general education and foundational subjects, followed by increasingly specialized and practice-oriented modules in later semesters. According to the self-evaluation report, 165 ECTS credits are dedicated to field-specific subjects, including 33 credits for practice and 9 credits for the final project.

The sequencing of subjects is designed to gradually build students' knowledge and skills. In the initial semesters, students study modules such as *Applied Mathematics*, *Physics*, *Professional Ethics*, and *Electrical Engineering* and *Electrotechnical Materials*, which form the theoretical base for further professional studies. Modules like *Practical Informatics*, *Computer Graphics*, and *Embedded*

Systems introduce students to field-specific tools and methods. More advanced modules such as *Control Systems*, *Mechatronic Systems Management*, and *Robot Control* are introduced in later semesters, emphasizing application of knowledge to real-world systems.

Practical training constitutes a significant component of the programme. The curriculum includes multiple forms of practical activities, such as electronics practice, technological practice, and a final professional practice. In total, practical training comprises approximately 34.7% of the total programme workload. The final project, allocated 9 ECTS credits, is conducted under the supervision of academic staff and assessed by a Qualification Commission that includes practitioners. Students are expected to demonstrate their acquired knowledge and practical skills through this final assignment.

This was noted by the site visit panel, who observed that expanding elective options would better accommodate diverse student interests and goals, by providing opportunities to personalize their learning pathway. The curriculum includes 6 elective credits from a list of subjects determined annually by the College, and a 9-credit module selected from either *Internet Technologies* or *Smart Device Technologies*. These options offer some flexibility for students to align their learning with individual interests, though the elective range appears to be narrow.

Curriculum updates are made based on consultations with social partners and graduates, as well as feedback collected through surveys. The Study Programme Committee (SPC) is responsible for reviewing module content and alignment with labour market needs. However, the report does not indicate how frequently modules are revised or to what extent student and employer feedback leads to concrete curricular changes.

While the curriculum formally meets structural and legal requirements and includes progression in knowledge and skills, the report provides limited evidence on how consistently competences are developed across all areas (e.g. soft skills, innovation capacity, entrepreneurship). Moreover, although practical components are emphasized, the actual impact on student readiness for complex, real-world tasks is not measured or substantiated with outcome-based data.

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

The Electronics Engineering and Robotics (EER) programme provides limited but defined opportunities for students to personalise their learning experience. According to the self-evaluation report, students are permitted to choose 6 ECTS credits from a list of elective subjects, which is reviewed and updated annually by the College. The elective offerings are based on proposals from faculty deans and subject descriptions submitted by teaching staff. However, no detail is provided in the report about the number, diversity, or content areas of these electives, making it unclear how broad or meaningful the personalisation is in practice.

In addition to the elective subjects, students must select one of two 9-credit alternative modules: *Internet Technologies* or *Smart Device Technologies*. This mandatory choice offers a limited form of curriculum tailoring aligned with the student's interest or intended career focus, though the decision is binary and not highly flexible.

The elective and alternative modules together comprise 15 ECTS credits, or 8.3% of the total programme workload. The remaining 91.7% of the curriculum is fixed, structured, and uniformly prescribed for all students. While this structure ensures consistency in achieving programme learning outcomes, it offers relatively narrow scope for adaptation based on individual learning goals.

There is no mention of student-designed learning paths, interdisciplinary electives from other faculties, or the possibility to substitute modules through recognition of prior learning to further

personalise the curriculum. Similarly, while feedback mechanisms are in place (e.g. SPC surveys of students and graduates), the report does not specify whether student preferences actively shape future elective offerings.

Although some flexibility is embedded in the curriculum structure, the personalization opportunities are modest and somewhat constrained by design. The report confirms compliance with minimum standards for student choice but does not provide evidence of a strategic effort to expand or enhance personal learning pathways.

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

The final thesis (graduation project) in the Electronics Engineering and Robotics (EER) programme is a mandatory component of the curriculum, allocated 9 ECTS credits in the final semester, which aligns with national and institutional regulatory requirements. The thesis is intended to be a culmination of the student's theoretical knowledge and practical competencies acquired throughout the programme.

According to the self-evaluation report, students choose their final project topic in consultation with a supervisor, no later than before the final semester. The topics are expected to reflect real-world technological or engineering challenges, though the report does not elaborate on the criteria used to assess the relevance or originality of these topics. While student autonomy in topic selection is noted, the extent to which this promotes innovative or research-based work is not addressed.

The final project preparation process includes two internal defences organized by the Study Programme Committee (SPC) prior to the public defence. The first is held after the final practice period, and the second occurs 10 calendar days before the formal defence. These checkpoints appear to function as quality control stages, though the report does not provide specific data on rejection rates, typical feedback given, or how this process supports student improvement.

The final thesis is publicly defended before a Qualification Commission composed of five members, including at least three professionals from the field and one external to the College. This aligns with common quality assurance practices intended to ensure impartial evaluation. However, there is no mention of whether rubrics or formalized criteria are used during assessment, nor how consistency and transparency are maintained in grading across different projects.

Thesis preparation and defence are governed by two internal documents: the *Description of the Procedure for the Preparation and Defence of Final/Graduation Theses (2022)* and the *Study Regulation*. These documents are publicly available, supporting transparency. The originality of final projects is verified using plagiarism detection tools through the eLABa system, and students must formally declare the independent and honest authorship of their work.

While the procedures for the final thesis align with legal and academic standards, during the site visit, panel members raised questions about the alignment between thesis topics and industry-relevant challenges, noting the need for clearer evaluation criteria and industry engagement., student satisfaction, or feedback from employers or social partners regarding the relevance of the final projects to industry needs. The inclusion of applied topics is implied, but examples or data on impact or implementation in professional contexts are not provided.

Although the final thesis component appears to follow appropriate structural and procedural standards, its actual impact on student learning and alignment with industry needs remains unclear due to the absence of supporting data or external review. Additionally, evaluating the academic relevance of the theses was not feasible, as the samples provided were only in Lithuanian and did not include English summaries, limiting accessibility for broader assessment.

ANALYSIS AND CONCLUSION (regarding 1.2.)

The Electronics Engineering and Robotics (EER) programme at PK is structured in line with national and institutional requirements, offering a curriculum that progresses from foundational knowledge to specialized skills and practical application. While the study plan includes clearly defined modules, professional practice, and a final thesis component, the report primarily provides descriptive accounts of compliance and structure rather than evaluative evidence of learning effectiveness. Opportunities for competence development appear logically sequenced, yet there is limited discussion on how these translate into measurable student outcomes or broader skillsets such as innovation, collaboration, or adaptability.

Student personalisation within the programme is modest, limited to a small portion of elective and optional modules. The final thesis process is procedurally robust, featuring supervision, interim evaluations, and public defence, but lacks data on the quality or industry impact of student work. Overall, while the programme meets baseline standards and is thoughtfully organised, the self-evaluation could be strengthened by including more outcome-focused data and critical reflection on the effectiveness of the curriculum in fostering diverse, workplace-relevant competences.

In summary, while the final thesis component is structurally compliant and procedurally sound, its effectiveness in terms of student learning outcomes and industry alignment cannot be substantiated, as no outcome data or external evaluations are provided

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		

RECOMMENDATIONS

To address shortcomings

1. Revise overly generic learning outcomes to ensure they are specific to Electronics Engineering and Robotics.
2. Expand the range of elective modules to improve curriculum personalisation and student choice.
3. Introduce outcome-based metrics to measure student competence development and programme effectiveness.

For further improvement

1. Use student and industry feedback more transparently in curriculum updates and show how it influences specific changes.
2. The EER study programme could also strengthen strategic links with international technology companies and promote traineeships or practical training abroad.
3. Strengthen evaluation of final theses by using clear assessment criteria and collecting data on their quality and relevance to industry.

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
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FACTUAL SITUATION

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

PK reported in SER that some activities in the field of research are influencing the teaching process in the EER field of study. The description proves that all the formal requirements in this matter are fulfilled. As was mentioned the PK is to carry out applied research and experimental development work, where the academic community, representatives of business and other social partners are involved to ensure proper outcomes of applied scientific research and experimental development, and the most advanced scientific knowledge and innovations are present in the study process. The PK introduced “activity strategy and strategic action plan for the year 2021-2026”. The institution has also started preparing for the 2029 expert evaluation of applied scientific research and experimental development. In 2023 the composition of the PK research groups and directions of the ongoing research were updated.

Academic staff from the EER field of study have been integrated into a research group engaged in the modernization and exploration of technical possibilities related to electrical and automation devices, the development and implementation of computer equipment, as well as the investigation of renewable energy sources and robotic systems. The group prepared scientific publications, of which the following are published in the Web of Science database. Three of them are mentioned in SER, but the publication place is not defined. As a result of participation in international conferences two national events are mentioned: a conference organized in 2021 in Kaunas (one publication presented) and SCEDU conference organized at PK in the years 2022 and 2023 (8 papers co-authored by 4 teachers). The PK reported also in SER that teachers of EER field of study also implemented international Erasmus+ projects. Such an involvement shows involvement of staff in international collaboration, but on an educational level.

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

This was also acknowledged during the site visit, where the panel confirmed that consultations with industry representatives have informed curriculum updates to reflect current technological trends, and as is reported in SER, the content of the EER programme at PK is updated regarding the latest scientific progress and the changing labor market needs. The study program has been reformed to modular structure taking into consideration such aspects as the development of student competences, as well as deepening student-oriented studies. The program ensures diverse, flexibly selected study scenarios, and the updates of the content of the study modules and subjects taught, including today's relevant topics. As was presented during the Expert Panel visit, the study programme is consulted with industry representatives ensuring that it is in line with expectations from modern and local industry.

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

As the PK declared in SER, students affiliated to the EER study field are constantly encouraged to participate actively in applied research activities, have interest in scientific progress and the

possibilities of applying technological innovations. Another possibilities offered for students are participation to SCEDU conference, participation to the annual conference “The roots of Science”, organized by the Scientific Society of Students, possibility to be involved in the activities of the College Student Scientific Society (SSS), preparation of final projects of research nature and some others. However, during the site visit, the panel was presented with structured plans and examples of ongoing research initiatives, which could be made accessible to students once enrolment resumes. Unfortunately, because of the lack of students in the evaluated field of study it was impossible to confirm such possibilities directly by students’ opinions. Nevertheless, it is important to note that listed above possibilities are available for prospective students in the future.

ANALYSIS AND CONCLUSION (regarding 2.1.)

Provided in the SER description of initiatives undertaken by PK to ensure links between science and study activities, shows that the institution is aware of the importance of this aspect in the educational process. The PK is preparing for expert evaluation of scientific applied research and experimental development which is expected in 2029. Presented in the SER scientific activities like scientific publications, attendance to international events, conferences, involvement in research projects is very limited and does not ensure proper scientific impact on the study process. The PK reported only a few scientific papers, participation in conferences only at national level (mostly a conference organized by the institution). A point also emphasized during the site visit, where the panel noted the low visibility of international research collaboration and the need for broader academic engagement. The number of teaching staff involved in the active research (documented by publications and participation in scientific conferences) is very limited – in total only 7 people are listed as co-authors during 3-years activity (some names appearing multiple times). Another significant shortcoming is completely missing international collaboration at scientific level, e.g. publications co-authored with foreign scientists, international scientific stays and research carried out with collaboration to foreign research centers. Similar problem is with the involvement of students in the research. There are no examples of students’ involvement in any form of scientific activity. As a positive sign, the possibility to participate in conferences, students’ scientific society or preparation of scientific nature final projects can be considered. As highlighted during the site visit discussions, the practical industry experience of some lecturers was seen as a valuable resource, though not a substitute for academic research engagement. But it should be noted that only industrial experience is not enough to ensure a proper link between science and the study process.

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			

RECOMMENDATIONS

To address shortcomings:

1. It is recommended to continue updating the EER programme content in line with the latest scientific developments and labor market trends, to ensure relevance and competitiveness once student recruitment resumes.

2. The institution should preserve and further develop opportunities for student engagement, such as participation in scientific conferences and the Student Scientific Society (SSS), so they are well-established when student admission recommences.
3. Number of teaching staff involved in the research and range of scientific activities related to study programme should be significantly increased.
4. International aspects of scientific research should be introduced.
5. Internal procedures encouraging academic staff for involvement in research activities would be an efficient method to increase presence of the research in the study process.

For further improvement

1. Teaching staff should try to apply for national and international research projects.
2. Involvement of students in the research projects and activities should result with scientific co-authored papers and conference participation.

AREA 3: STUDENT ADMISSION AND SUPPORT

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

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

"Although there are currently no students enrolled in the system, this does not preclude an evaluation of the established admission procedures and structures."

The student selection and admission process at Panevėžys kolegija is both adequate and transparent, aligning closely with national standards and institutional regulations. Admission is managed through the centralized Lithuanian LAMA BPO system, with publicly available thresholds clearly communicated via the College's website and outreach initiatives such as school visits and education fairs. Despite proactive dissemination efforts, enrolment in the Electronics Engineering and Robotics (EER) programme has been challenged by broader demographic shifts and stricter national admission standards. To mitigate this, PK has introduced initiatives like the MIFA Academy to boost STEM competencies among secondary school students. The College also holds the right to recognize foreign qualifications, and while a formal framework for recognizing prior non-formal and informal learning exists, its application has been limited, signaling a need for increased awareness. Overall, the institution's procedures ensure fair access while identifying areas for improvement in outreach and recognition processes.

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

PK has established a formal framework for the recognition of foreign qualifications, partial periods of study, and prior non-formal or informal learning, detailed in publicly available documents from 2020. This framework emphasizes key principles such as availability, transparency, objectivity, comparability, and flexibility, ensuring a fair and consistent evaluation process. Information about these procedures is actively disseminated to students during orientation programmes and is readily accessible on the College website. In March 2023, PK received official authorization from the Ministry of Education, Science and Sports to conduct academic recognition of higher education qualifications obtained in foreign countries and by international organizations, further solidifying its capacity in this area. While the procedural framework for recognizing prior learning, including non-formal and informal competencies, is in place, the self-evaluation notes that no applications for the recognition of informal learning were recorded during the assessed period. This suggests a potential need for enhanced awareness campaigns and clearer communication to students regarding the opportunities

and processes for recognizing such learning experiences. Furthermore, while the methodology for recognizing foreign qualifications is deemed appropriate and aligned with common academic standards, the evaluation highlights a significant lack of statistical data concerning the number of recognized qualifications (both formal and non-formal) and the outcomes of recognition applications over the past three years. This absence of data limits the ability to comprehensively assess the effectiveness and transparency of the recognition process in practice.

ANALYSIS AND CONCLUSION (regarding 3.1.)

PK has established admission criteria and procedures for the Electronics Engineering and Robotics programme that are demonstrably adequate and transparent, aligning with national regulations and ensuring that prospective students have access to the necessary information. The College has also developed a well-structured system for the recognition of prior and foreign learning, emphasizing fairness and comparability. However, the low enrolment numbers in the EER programme during the assessed period underscore the impact of broader demographic trends and evolving national admission standards, necessitating proactive engagement initiatives like the MIFA Academy. Additionally, while the framework for recognizing prior learning is in place, the lack of applications for informal learning recognition suggests a need for improved communication and awareness. The absence of statistical data on the outcomes of qualification recognition processes also limits a comprehensive assessment of its practical effectiveness and transparency. Addressing these areas will be crucial for optimizing student recruitment and ensuring equitable access and recognition for students with diverse educational backgrounds.

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

3.2.1. Opportunities for student academic mobility are ensured

According to SER PK has established a network of 27 Erasmus+ bilateral agreements with universities across various European countries, providing students in the Electronics Engineering and Robotics programme with formal opportunities for academic mobility. Information regarding these exchange possibilities and the application procedures is actively disseminated through the College website and dedicated meetings with students. As there are currently no students enrolled on the programme, there has been no participation in Erasmus+ mobility opportunities to date. While international experiences remain a strategic priority, future student engagement in mobility programmes will depend on enrolment levels and student interest. The College remains committed to supporting access to such opportunities, including offering one-off scholarships for students from underrepresented groups should participation increase in the future. Furthermore, the College utilizes the ECTS Credit Transfer System to ensure that periods of study and practical training undertaken abroad are properly credited upon the students' return, facilitating seamless academic progression. However, despite these supportive measures and the availability of numerous partnerships, the evaluation notes that there were no incoming Erasmus+ students for partial studies in the EER programme during the analyzed period, indicating a potential imbalance in the exchange activities. The consistently low outgoing mobility rates and the absence of incoming exchange students suggest that while opportunities are formally ensured, their effective utilization is hampered by a combination of financial, linguistic, and personal factors.

Although mobility structures are in place, no students were registered during the evaluation period.

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

PK has implemented a comprehensive student support system, formalized through internal procedures such as the "Description of the procedure for student support and adaptation (2021)." This system encompasses various forms of assistance, including academic tutoring and mentoring, financial aid facilitated through the State Study Fund (social scholarships, loans, study cost reimbursement), and access to accommodation in the College dormitory. Recognizing the importance of mental well-being, PK collaborates with the Lithuanian Student Union to provide students with free and confidential psychological counseling services. Information regarding these support services is readily available on the College website's "Students" section, and students receive personalized updates via their College-administered email accounts. To enhance academic integration, particularly for first-year students, each academic group is assigned both a tutor (a lecturer) and a student mentor, who provide guidance and support in navigating the new academic and social environment. Students who balance work and studies can, by Dean's decree, arrange individualized lecture schedules, and accommodations are made for students facing illness or other significant circumstances, such as the possibility of rescheduling practice placements and examinations. Individualized tutorials are also provided for students returning after academic leave or extended breaks.

However, due to the low student enrolment in the EER programme during the evaluation period, the self-evaluation notes that it was not possible to accurately assess the practical effectiveness of the College's support services on a significant student body. Firstly, PK students have limited opportunities for scholarships beyond state-allocated funds, recommending the establishment of incentive scholarships by the faculty or through collaborations with companies or the municipality to attract and support students in specific study programmes. Secondly, significant concerns are raised regarding the accessibility and internationalization of the College's website, particularly the lack of comprehensive translation of documents and the overall website into English, which hinders the attraction and support of international students. Thirdly, there is a lack of easily accessible information regarding psychological or spiritual support on the College website, with outdated information and broken links. The recommendation is to update this information, consider having an on-campus psychologist and potentially a prayer room for religious students. Also there is a limited range of extracurricular activities and student organizations. It was discussed by the onsite panel about establishing a sports club and encouraging the creation of new student-led organizations to enhance student engagement and campus life.

3.2.3. Higher education information and student counselling are sufficient

PK provides a structured approach to disseminating essential information and offering counselling to its students. Upon enrolment, first-year students receive a "student memo" containing key details about the College's structure, contacts, academic principles, and available services. The academic year for new students commences with an "introduction to studies" programme, during which they meet with key administrative and academic staff, including the heads of the College and Faculty, as well as representatives from the Centre for Studies, Career and Occupation. During this introductory period, students are thoroughly briefed on study procedures, the assessment system, learning resources, and the systems of academic and financial support, including opportunities for academic exchange. First-year students are also required to sign a declaration of honest studies. The chairperson of the Study Programme Committee plays a crucial role in providing detailed information about the specific content of the EER programme and offers ongoing guidance and advice to students on relevant academic matters. Comprehensive information regarding studies is publicly accessible to students through a dedicated section on the College website. During the online meeting with panel experts, it was observed that, although there are currently no enrolled students, certain aspects of the planned student support structure may require further development. The discussion highlighted that mentorship models involving senior students and student representation have been effective in other contexts for supporting the transition from secondary school to higher education and fostering student integration. It was also noted that many of the documents intended for future

students appear outdated, which may impact the accuracy and relevance of the information once student intake begins.

ANALYSIS AND CONCLUSION (regarding 3.2.)

PK has established a foundational student support system that addresses academic, financial, social, and psychological needs through various services and established procedures. Students have access to tutoring, financial aid options, accommodation, and mental health support. The College also provides structured information and counselling services, particularly for first-year students, through orientation programmes and readily available online resources. However, the consistently low participation rates in academic mobility programmes, despite the availability of agreements and some financial incentives, indicate a need for more targeted strategies to address the specific barriers identified by students, such as financial constraints and language proficiency. Furthermore, the evaluation group points to critical areas for improvement, particularly concerning the limited availability of non-state scholarships, the lack of comprehensive website and document translation into English, the outdated and difficult-to-find information regarding psychological and spiritual support, and the limited range of extracurricular activities. Addressing these shortcomings is crucial for enhancing the overall student experience, attracting international students, and fostering a more vibrant and supportive campus environment. The recommendations to increase scholarship opportunities, improve website accessibility and translation, update information on support services, and expand extracurricular activities should be prioritized to maximize student learning progress and well-being.

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			

RECOMMENDATIONS

To address shortcomings

1. Update and regularly review student-facing documents and resources to ensure relevance and accuracy, particularly for first-year students who rely heavily on this information.
2. Enhance the visibility and accessibility of student support services, especially psychological and academic counselling, through improved online content and clearer navigation on the College website.
3. The faculty should consider establishing and allocating their own incentive-based scholarships to reward academic excellence, engagement, or other positive contributions by students. This could directly motivate students within specific study programmes.
4. PK should actively pursue collaborations with local companies and the Panevėžys municipality to create scholarships specifically tailored to students in particular study programmes, such as Electronic Engineering and Robotics. These targeted scholarships could serve as a significant draw for prospective students interested in those fields and foster stronger ties with local industry.

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

4.1.	Students are prepared for independent professional activity
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FACTUAL SITUATION

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

The teaching and learning processes in the Electronics Engineering and Robotics (EER) programme are formally aligned with the intended learning outcomes and structured around a variety of delivery methods. These include lectures, laboratory work, group assignments, distance learning, and independent projects. Tools such as Moodle, Google Meet, and interactive platforms like Kahoot and Menti are used to enhance student engagement, especially during remote instruction. While these tools suggest an effort to diversify teaching, the report does not provide specific evidence of how effectively these methods meet diverse student needs or support varied learning styles.

Learning outcomes are clearly defined in module descriptions, and cumulative assessment methods are used to track student achievement. The assessment system includes interim evaluations (tests, coursework, presentations) and final examinations or projects, weighted according to standardised criteria. Students receive feedback through group discussions, email, and virtual platforms, with some evidence of formative assessment practices. However, there is no data presented on pass rates, dropout trends, or comparative analysis of outcome attainment across different cohorts, which limits insight into the effectiveness of teaching methods in practice.

Independent learning is embedded in the programme and structured through assigned hours and defined tasks, including written reports, applied research, and technical documentation. While tutorial time is formally included to support this aspect of learning, the report does not indicate how students respond to or benefit from this mode of instruction, nor whether the independent work contributes meaningfully to deeper learning or autonomy.

Although there are currently no enrolled students, the College has established support mechanisms, including mentors, individual consultations, and electronic access to materials. However, in the absence of student engagement, there has been no opportunity to evaluate how these supports are perceived or how effectively they function in practice. The report also notes that learning is generally organised in a top-down manner, with little mention of student involvement in shaping learning approaches or contributing to curriculum design. Although the programme provides the necessary structures and formal mechanisms, it lacks critical reflection on whether these systems are responsive to changing student needs or capable of fostering higher-level competencies such as critical thinking, innovation, or teamwork.

While the teaching and learning structure is compliant and incorporates a range of tools and methods, as noted by the panel during the site visit, the programme demonstrates a formal structure, but the absence of student feedback and performance data makes it difficult to assess how effectively the teaching methods are implemented or perceived in practice.. the SER report lacks sufficient outcome data and critical evaluation. As such, the extent to which the programme effectively addresses student needs and supports the achievement of intended learning outcomes remains largely unverified.

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

PK has established formal mechanisms to ensure access to higher education for socially vulnerable groups and students with special or individual needs. These measures include academic counselling, the possibility of individualized study schedules, mentoring systems, and physical infrastructure adaptations such as mobile stair climbers, height-adjustable desks, and assistive software for visually impaired students. Additionally, psychological counselling is offered in collaboration with the Lithuanian Student Union, and students are informed about available support through the College's website and orientation events.

A dedicated counsellor for students with special needs operates within the Centre for Studies, Career and Occupation. The institution also participates in the national project "Increasing the accessibility to studies," which has contributed resources for accessibility enhancements. Furthermore, the College states it complies with relevant legislation and provides financial support opportunities through state and EU funds, including social scholarships and dormitory access.

During the site visit, panel members acknowledged the robust structural provisions but also highlighted the importance of testing and refining these systems with actual user input once enrolment resumes. Despite these structural provisions, the self-evaluation report explicitly notes that **no students with special needs were enrolled in the EER programme during the evaluation period**. As a result, while institutional readiness is evident, the practical application and effectiveness of these measures in the context of this specific study field remain untested. There is no information on how vulnerable groups are actively recruited, supported during studies, or monitored in terms of academic progress and retention.

Moreover, although measures for integration into the academic community—such as student mentoring and tutor assignments—are in place, there is no feedback or data presented on how well these are functioning or perceived by students who might benefit from them. The College's commitment to equal access appears well-documented in policy, but its impact cannot be assessed due to the absence of actual case examples, usage data, or qualitative evaluations.

PK has made clear administrative and infrastructural preparations to support socially vulnerable groups and students with individual needs. However, due to the lack of enrolled students from these groups in the EER programme during the period under review, there is no evidence to assess the real-world effectiveness, responsiveness, or outcomes of these measures.

ANALYSIS AND CONCLUSION (regarding 4.1.)

The teaching and learning process in the EER programme is formally structured and includes a range of methods designed to support student achievement of intended learning outcomes. These include lectures, lab work, interactive digital tools, cumulative assessments, and structured independent study. While the programme meets regulatory expectations and incorporates multiple support mechanisms, the report lacks outcome-based evidence, such as student performance data or feedback, to critically assess whether the applied teaching strategies effectively address diverse student needs or foster higher-order skills. Similarly, opportunities for active student engagement in curriculum design or teaching processes are not explored.

Access measures for socially vulnerable groups and students with individual needs are well-defined at the institutional level. These include adapted infrastructure, personalised study options, counselling, and financial support. However, the absence of enrolled students from these groups in the EER programme during the evaluation period means that the practical functioning of these supports cannot be assessed. While institutional preparedness appears adequate, there is no available data to confirm the accessibility or effectiveness of these measures in practice.

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

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

From the information provided in the SER the college systematically monitors the academic progress of students. The monitoring of student progress is conducted twice a year, following the completion of each semester, and the results and other problems are discussed with the Dean of the college. The monitoring activities are well-documented and detailed in the SER, and deemed good. Regular surveys are conducted among students to gather feedback on the quality of lectures, subject content, and various aspects of student life, reflecting the college's commitment to continuous improvement. The college also provides appropriate support measures for first-year students, facilitating their adaptation to academic life. For example, information, counselling and other services are foreseen for them.

Comprehensive information is provided to SER regarding the way used to deliver feedback to students on their academic performance. For example, after correction of the performed task by a group of students, the teacher comments in class or by email on the most common mistakes, giving in this way the opportunity to students to compare their mistakes and make sure of the objectivity of the assessment. Feedback is provided either individually or in group settings, depending on the context. As confirmed by the panel during the site visit, this approach is seen as methodologically sound, but its effectiveness will require validation through regular feedback from enrolled students once they return to the programme.

4.2.2. Graduate employability and career are monitored

PK tracks graduate employment within 12 months post-graduation using internal surveys and national data. Career support is provided through consultations and cooperation with regional employers (Adax, TechVitas, LietKabelis and others).

Employment data in provided PK_SER: 2021 year graduates: 31% employed per year. 2022 graduates: 33% employed per year. Data based on national registers and supplemented by surveys and contacts with graduates. Employment results are low, so need to study how to attract future students for EER study programme at PK.

PK systematically collects employer's feedback on graduates professional skills by conducting surveys. PK SER: Employer feedback is gathered during practical placements and final thesis evaluations. Graduate's evaluation from the employer's point of view was: Theoretical knowledge (84.6% positive evaluation); Practical skills and abilities (69.2% positive evaluation); General competences (84.6% positive evaluation). PK agrees that future students and graduates need more practical competences (to be able to solve issues in electronics and robotics), and that such graduates are highly valued by employers and have an open door for further development.

PK Career Centre facilitates the collection of feedback and assists students in accessing job search tools and networking with employers. The information gathered is shared with SPC to adjust course content and career guidance services. Long-term graduate career monitoring and international employment data are not collected.

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

From the discussion at the on-site visit and conversations with the evaluation panel experts, it was evident that College actively enforces policies addressing deviance from academic norms, including acts of dishonesty and discriminatory behavior. These measures—supported by the Code of

Academic Ethics and equal opportunity guidelines—help ensure academic integrity, tolerance, and non-discrimination across the institution.

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

PK has defined procedures to ensure academic integrity and to process student appeals and complaints. The principles of ethical behaviour are regulated by the *Code of Academic Ethics of Panevėžys College (2021)* and the *Description of the Procedure for Plagiarism Prevention (2018)*. Students are introduced to these expectations during orientation and sign a declaration committing to honest study. Plagiarism in final theses is monitored using the national eLABa system. If academic dishonesty is identified during assessments, teachers are instructed to terminate the evaluation session and assign academic debt, in accordance with the *Study Regulation (2023)*.

The process for appealing academic decisions is governed by the *Appeals Regulations of Panevėžys College (2017)*. Students may appeal both module assessments and final thesis evaluations if they believe procedures were violated. Appeals must be submitted formally, and responses are reviewed in accordance with established procedures. However, the report does not include data on the number or type of appeals submitted during the evaluation period, nor does it provide information on their outcomes or the effectiveness of resolution processes.

In terms of tolerance and non-discrimination, the College follows the *Description of Measures for the Implementation of the Equal Opportunities Policy (2018)*, which defines the principles of inclusion and non-discrimination. The institution affirms its commitment to equal treatment regardless of gender, disability, ethnicity, or other individual characteristics. Despite this, the report does not include any information on actual violations, complaints, or institutional responses related to discrimination or intolerance over the past three years.

ANALYSIS AND CONCLUSION (regarding 4.2.)

While graduate theoretical knowledge has received strong evaluations from employers, practical skill development was identified as a relative weakness. The SER notes that some hands-on components are included in the study process (e.g. lab work, final projects), but it does not provide detailed information about the structure, quality, or extent of applied learning activities. During the site visit, the panel discussed the value of expanding practical learning formats, such as simulation-based exercises, industry-led workshops, or micro-internships, particularly in a field like electronics and robotics where workplace readiness is essential. These additions could help better align the programme with employer expectations and support students' transition into professional roles.

Monitoring of learning progress and feedback process is structured and could be effective when students will be present in the college.

Graduate employment is tracked, but employment rates remain low (31% in 2021, 33% in 2022). Employers rate graduates' theoretical knowledge positively, but note a need for stronger practical skills. The Career Centre supports job search and employer engagement, though long-term career tracking is missing.

PK has documented procedures and policies in place to ensure academic integrity and fair handling of student appeals, as well as to promote tolerance and non-discrimination. However, the SER report does not provide any case summaries, statistics, or evaluative feedback regarding the use or effectiveness of these procedures, making it impossible to assess their practical implementation or impact within the evaluated period.

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		

RECOMMENDATIONS

To address shortcomings

1. Based on employer feedback and panel discussions, the institution should evaluate the current provision of applied learning in the EER programme. Where gaps are identified, College is encouraged to consider introducing or expanding hands-on formats such as simulation labs, industry-led workshops, or micro-internships to enhance students' practical readiness for the job market.

For further improvement

1. College should enhance its data collection and analysis practices to include student feedback, cohort performance, and dropout/pass rates across the EER programme. This would provide crucial insights into the effectiveness of teaching methods, support mechanisms, and the attainment of intended learning outcomes, allowing for evidence-based improvements.

2. To ensure accessibility measures are effective and inclusive, the College should develop and implement a strategy for actively recruiting and tracking students from socially vulnerable groups and those with individual needs. This should include collecting qualitative and quantitative data on their academic progress, integration, and satisfaction with support services once enrolled.

AREA 5: TEACHING STAFF

5.1.	Teaching staff is adequate to achieve learning outcomes
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FACTUAL SITUATION

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

According to the *PK_SER* report, the Electronics Engineering and Robotics (EER) programme is implemented by a team of 10 teachers. Of these, 80% are full-time staff employed by the College. This includes 4 teachers working full-time on the EER programme and 3 working at least part-time. The College reports that this stable team contributes to consistency in programme delivery and supports the achievement of learning outcomes by reducing fragmentation in the teaching process.

All teaching staff involved in the programme hold at least a master's degree, fulfilling the minimum qualification requirement for professional bachelor study programmes. In addition, 80% of the teachers have at least three years of professional experience relevant to the subjects they teach. The College states that those without current practical experience are required to refresh their professional knowledge through internships, in line with the *Description of Practical Internship*

Procedures (2021).

Furthermore, 22% of the study modules are delivered by academic staff who are qualified researchers, which exceeds the legal requirement of 10%. Certification of teaching staff is conducted every five years to ensure ongoing compliance with minimum qualification standards. The last certification was conducted in 2019, with another scheduled in 2024. The report also notes that staff recruitment procedures consider both academic and practical competence, and that mentoring is provided to newly recruited instructors.

While the teaching staff composition appears sufficient in number and qualification to meet programme needs, the report does not provide specific evidence—such as teaching evaluations, student feedback, or learning outcome achievement rates—that would confirm the effectiveness of staff performance in achieving the intended outcomes. There is also no mention of challenges related to staffing levels, subject coverage, or recruitment. Unfortunately, because of the lack of students in the evaluated field of study it was impossible during Panel Expert visit to get feedback from students about staff quality. Also the staff was unable to define which forms of evaluation are used to verify staff competences.

ANALYSIS AND CONCLUSION (regarding 5.1.)

In conclusion, based on the information provided, the number and qualification of teaching staff for the EER programme formally meets the necessary requirements and appears stable and adequate. However, the report does not include evaluative data or performance indicators to confirm how staff competence translates into student success or programme quality in practice. The PK should define methods for periodic staff evaluation.

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

5.2.1. Opportunities for academic mobility of teaching staff are ensured

Sufficient information and assistance are provided by the institution related to the academic staff mobility under the Erasmus+ programme. Academic staff mobility has been implemented in five instances, with five members of the teaching staff participating in exchange visits to four foreign countries. The system governing the dissemination of information and the selection process for teaching staff participating in mobility programmes is described and is sound. In SER it is provided the information that “none of the requests for mobility visits of the teachers (50%) is rejected”.

There are the names of 4 foreign institutions visited. However, no further details are provided regarding these exchanges, such as the years of participation, the duration of the visits, the courses taught, or any additional forms of collaboration undertaken during these exchanges.

There is a complete absence of information also regarding incoming Erasmus+ teaching staff, making it impossible to evaluate the college's engagement in reciprocal academic exchanges. Additionally, there is no information in SER about whether there are other similar staff mobility opportunities beyond the Erasmus+ programme.

The benefits gained from academic mobility—both for the participating staff members and for the college as an institution—are neither indicated nor supported by any supplementary information. This lack of reflection limits the ability to assess the impact and added value of staff mobility initiatives. However, as discussed by the panel at the site visit, factors such as financial constraints, linguistic challenges, and limited confidence in navigating international experiences were repeatedly

cited as practical barriers by staff.

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

Significant importance is placed by the college on the continuous improvement of academic staff competences and qualifications. Giving priority to its strategic activities, the EER established a plan which includes organisation, implementation, monitoring and evaluation of teachers' competences and qualification improvement. To ensure upskilling and enhancement of didactic competences, the college organises, carries out, and encourages teachers to participate in didactic competence training events like "Challenge-based teaching", "Virtual reality technology", "Modern didactic competences development" and others. The main ways for qualification improvement, as identified in internal documents, are the participation in international mobility projects, practical internships, seminars, courses and other qualification improvement events. Unfortunately, during the Expert Panel visit, the staff attending the meeting did not express any willingness to improve their competences. It relates mostly to academic staff holding only MSc degree (majority of staff) who should be motivated to start PhD study.

To improve the distant studies quality of the teachers, the college carries out training for digital competences, organisation of teaching/learning and assessment remotely, and use of distant education tools seminars.

The implementation of the competence and qualification improvement plan for teachers is ensured mainly by allocating financial funds by the EER. According to information provided by SER, over the last three years, the average annual cost of improving the qualifications of academic personnel per one teaching position has amounted to 705 euros.

ANALYSIS AND CONCLUSION (regarding 5.2.)

The academic staff is sufficient to carry out study at the evaluated EER study field, but procedures for evaluation of staff quality are not sufficiently clearly defined and implemented.

The college provides sufficient and clear information regarding Erasmus+ teaching mobility, and five academic staff members have participated in teaching exchanges abroad under this programme. Nevertheless, the PK should also promote other possibilities of international exchanges, like short courses, bilateral international programs, MCSA (Marie Skłodowska Curie Action) funds and others.

There is insufficient information in the SER regarding the outcomes and impact of the staff exchanges that have taken place. For example, what topics were taught and if there were agreements for further collaboration in educational and research projects? Without this information, it is difficult to assess the benefits derived by both the participating staff and the institution.

The college offers numerous opportunities, including funding for organising training and events, which give the possibility to academic staff to engage in professional development activities, demonstrating a strong commitment to enhancing staff competencies and qualifications. But PK should pay more attention to motivate academic staff for long-life personal improvement, including education to obtain higher academic degrees (like PhD degree).

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		

RECOMMENDATIONS

To address shortcomings

1. The PK should introduce proper procedures to evaluate the quality of teaching staff (including evaluation done by students).
2. Academic staff should consider to increase international activity by attendance in international programs, short courses and MSCA initiatives
3. The PK should pay more attention to motivate academic staff to improve their qualification and take proper actions to obtain higher academic degrees.

For further improvement

1. It is important for PK to strengthen its efforts in fostering a culture of academic advancement by providing incentives and structured support for staff pursuing higher qualifications.

AREA 6: LEARNING FACILITIES AND RESOURCES

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

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

Detailed information has been provided regarding the lecture rooms and teaching laboratories allocated to the Electronics Engineering and Robotics study programme. The available facilities, including both hardware and software resources, are adequate to support the expected number of students and are sufficient to ensure the achievement of the programme's learning outcomes. The establishment of the modern Applied Research and Innovation Centre (ARIC) will help the development of not only the college but the region and the country. All auditoriums and classrooms meet fire prevention, hygiene and health safety requirements.

Notable efforts have been made to equip the facilities with appropriate adaptations to meet the needs of individuals with disabilities. While these measures are commendable, there remains room for further improvement to enhance accessibility in the future.

The provision of data to students to work remotely by utilizing the institution's facilities is clearly explained and assessed as good and able to support flexible learning opportunities. For example, the college has set a remote teaching auditorium with 14 computerised working places and other classrooms and studios with suitable equipment for remote lectures broadcasting.

Comprehensive information is available concerning the availability of teaching materials within the institution's library, along with the suitability of reading rooms for study purposes. There are 74 working places, 20 of which are computerized. There are also working places for people with disabilities which may use specialized adapted software, like Dolfin SuperNova for screen magnification and other programmes. The library operates on average 51 hours per week and 9 hours on Saturday. Additionally, details are provided in SER and during the visit about the big number of books and other documents, the subscription to 22 printed periodicals and electronic books. Students and teachers also have access to supplementary services such as copying, scanning, and wireless internet access.

The library has also acquired a licence to access over 9000 e-books, including publications relevant to electronics engineering. From the visit it is estimated that the availability of recent English books on latest electronic technology is not the best and there is room for improvement. For example, books on FPGA digital electronics circuits.

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

PK demonstrates a structured and ongoing commitment to the planning and upgrading of its learning resources. Annual strategic and financial planning documents outline allocations for infrastructure maintenance and enhancement, including upgrades to laboratories and digital tools. Participation in national and EU-funded projects, such as EdTech, has supported the acquisition of hybrid learning technologies. However, during the onsite visit, it was observed that while the laboratories are functional and adequately equipped for basic instruction, the equipment and experiments do not reflect state-of-the-art technologies, particularly in areas such as IoT, embedded systems, and robotics. This gap limits students' exposure to current industry practices and innovations. Continued investment and modernization of specialized laboratory facilities are essential to align with the evolving demands of the electronics and robotics fields and to ensure graduates are equipped with cutting-edge practical competencies.

ANALYSIS AND CONCLUSION (regarding 6.1.)

The classrooms, laboratories and IT equipment available for the implementation of the courses within the proposed programme are adequate and meet the requirements of teachers and the expected number of students at the college. The facilities in hardware and software equipment are sufficient to support effective teaching and learning activities. The availability of books and accessibility of e-books and publications in the library is sound.

Efforts have been made to equip the teaching installations with facilities and appropriate adaptations to meet the needs of individuals with disabilities, and they are successful, although the effort for improvement should be continued.

Possibilities are provided to students to use remotely the installations of the EER including the library, for the implementation of their studies.

The availability of recent editions of English-language books in the library is not the best, and this may limit access to up-to-date academic resources and international literature in the field.

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		

RECOMMENDATIONS

To address shortcomings

1. While the foundational resources are in place, targeted investments in modernizing laboratory equipment and expanding the library's holdings in specialized areas will be necessary to maintain academic quality and ensure the programme stays relevant in a rapidly evolving field.
2. PK is encouraged to enhance transparency in its resource planning by offering clearer documentation of both current and future infrastructure investments, while also placing greater emphasis on modernizing technical equipment essential for hands-on student learning

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
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FACTUAL SITUATION

7.1.1. Internal quality assurance system for the programmes is effective

According to the *PK_SER* report, the internal quality assurance (QA) system at the College is established in accordance with institutional regulations and the College's quality management system. This system is applied to the development and monitoring of the Electronics Engineering and Robotics (EER) programme. The QA framework includes documented procedures, regular analysis of study content, and review of learning outcomes to ensure compliance with legal and academic standards.

The EER Study Programme Committee (SPC) is the main body responsible for quality assurance within the programme. It oversees curriculum updates, assesses the relevance of learning outcomes, and evaluates whether study modules align with labour market needs. Feedback is collected from students and graduates through surveys, and this input is reviewed during SPC meetings. According to the report, the SPC considers this feedback when revising the study programme, but no specific examples or documented outcomes of such revisions are provided.

Social partners are also involved in the QA process, particularly in reviewing final thesis topics and participating in the Qualification Commission. The SPC holds discussions with these partners on the alignment of module content with professional qualifications and labour market demand. However, the report does not specify the frequency or structure of these consultations, nor does it detail how partner input has influenced programme changes.

Transparency is maintained through public availability of internal regulations and procedures on the College website. Although the College states that quality monitoring is continuous, there is no summary of key performance indicators, internal audit results, or quality improvement actions taken

during the reporting period. Furthermore, while feedback mechanisms are in place, the report lacks evidence of how this feedback has led to measurable improvements in teaching, learning, or graduate outcomes.

The internal quality assurance system for the EER programme is institutionally embedded and involves both internal and external stakeholders. While the system is described as active and structured, the *PK_SER* report does not provide sufficient evidence to assess the effectiveness of its implementation in practice or its impact on programme quality.

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

PK actively involves stakeholders in the internal quality assurance of its study programs. Employers contribute to this process through consultations, providing internship opportunities for students, and participating in broader program quality assurance activities. Social partners, such as TechVitas, provide feedback that has a direct influence on adjustments to learning outcomes and the content of practical training components within the programs. Employers express satisfaction with the adaptability and foundational knowledge of PK graduates, emphasizing their ability to learn quickly and grasp new concepts.

In addition to employer involvement, PK also gathers input from graduates and receive positive feedback from students. Graduates report acquiring valuable social skills during their studies. However, some graduates have suggested that the program could benefit from increased specialization, particularly in the areas of robotics and automation. Graduates provide feedback through questionnaires and receive emails from the college. Industry professionals are invited to participate in thesis defenses. Graduates from the Mechatronics Center participate in various projects, with some project outcomes indirectly related to robotics.

Companies indicate that they invest significant resources in student development (through activities such as creating project plans, assigning tasks, and monitoring student progress) compared to the direct benefits they receive. One company is involved in a joint project with PK focused on robotic solutions, some companies provide scholarships to PK students, although representatives from these scholarship-providing companies did not attend the meeting where this information was gathered.

The primary mode of connection between the college and employers appears to be through student internship reports. The report suggests that there is a lack of clear evidence that feedback is actively encouraged from employers or that employers are deeply involved in shaping the overall quality of the program. A formalized connection between the college and employers in quality assurance is not evident, employers do not receive formal questionnaires.

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

PK has established mechanisms for the systematic collection, use, and dissemination of information regarding its study programmes. The Study Programme Committee (SPC) plays a central role in overseeing data collection from students, graduates, and social partners. This is achieved through structured surveys and consultations that address key areas such as module content, teaching coordination, and graduate preparedness.

The collected data is analysed during SPC meetings and used to inform decisions related to curriculum updates, teaching methods, and programme development. Although the original report mentions these processes, further examples are now available demonstrating their impact. For example, in response to feedback and recommendations from prior evaluations, specific programming subject descriptions were revised, and in 2023, a modular programme in Electronic Engineering and Robotics was approved and introduced. This reflects a direct link between collected evaluation data and implemented programme changes.

External evaluations conducted by the Centre for Quality Assessment in Higher Education (SKVC) also play a significant role. Their results are integrated into ongoing improvement processes, and the outcomes of such evaluations are made publicly available on institutional websites or national databases, as required.

PK publishes essential information about its study programmes—including programme descriptions, admission criteria, learning outcomes, graduate qualifications, stakeholder feedback, and employment data—ensuring transparency and accessibility for stakeholders. This commitment to openness supports informed decision-making by prospective students and contributes to a culture of continuous quality improvement.

7.1.4. Student feedback is collected and analysed

Student surveys at PK are conducted using a dedicated survey system, following the procedures outlined in the PA 10 survey procedure. The survey results for the 2021-2022 academic years indicate that the majority of subjects received positive ratings across all questionnaire items, with students selecting "agree" and "strongly agree." Students expressed high satisfaction with the content of the subjects, the relevance and clarity of the topics covered, the abundance of practical tasks, the acquisition of new knowledge that is directly applicable to their work, and the sincere, professional approach of the teachers. Teachers were generally rated as excellent, pleasant, knowledgeable, and highly valued by students. Students also expressed satisfaction with the organization of practical placements in external institutions, noting that these placements helped them connect theoretical knowledge with practical experience and develop valuable skills. They also appreciated the connection between practical placements and their final thesis projects. Infrequent student concerns included a lack of detailed feedback on assessment mistakes, a lack of clarity in some teaching approaches, and a need for greater specificity in some course content. These concerns are addressed through discussions with the relevant lecturers and the provision of assistance or qualification enhancement courses. Overall, student satisfaction with the quality of studies was reported to be 83% for the 2021-2022 academic years, while employer satisfaction was 65%.

Based on feedback received from students, PK has implemented several improvements to its programs. These improvements include updates or adjustments to subject content and exam tasks, the provision of more learning materials in both Lithuanian and English, a discussion between the chairperson of the Electronics Engineering Study Programme Committee and the dean of the Faculty of Technology Sciences focused on improving communication with students, and the uploading of video lectures to the Virtual Learning Environment (VLE) platform. The EER study program was also adjusted and refined based on feedback from students and social partners. Other improvements related to the organization of studies and material resources were also implemented. PK publishes information on its website detailing how student suggestions from surveys have been incorporated and areas for improvement have been identified.

ANALYSIS AND CONCLUSION (regarding 7.1.)

PK has established an internal quality assurance (QA) system that encompasses documented procedures, regular analysis of study content, and the review of learning outcomes. This system involves both internal (faculty, students, administration) and external (employers, social partners) stakeholders. The EER Study Programme Committee (SPC) plays a central role in this system, overseeing curriculum updates and assessing the relevance of learning outcomes. While the system is in place, the PK_SER report lacks detailed evidence on the practical effectiveness of its implementation and its impact on program quality.

Stakeholder involvement, including contributions from employers and social partners, is evident

through consultations, internship opportunities, and participation in program quality assurance. However, the report indicates a need for more formalized connections with employers and more detailed reporting on how stakeholder feedback is used to drive specific program improvements.

PK collects and utilizes information related to study programs, including feedback from students, graduates, and social partners, and results from external evaluations conducted by the Centre for Quality Assessment in Higher Education (SKVC). Student feedback is generally positive, with high satisfaction levels reported for subject content, teaching quality, and the organization of practical placements. PK has implemented several improvements based on student feedback.

In conclusion, while PK has a structured QA system and engages stakeholders in the process, there's a need for more concrete evidence demonstrating the system's effectiveness in driving program improvements. This includes providing specific examples of how feedback has led to changes in curriculum, teaching methods, and graduate outcomes. Formalizing connections with employers and enhancing communication about how their input is used is also important.

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		

RECOMMENDATIONS

To address shortcomings

1. Document and publish specific examples of programme improvements based on stakeholder feedback.
2. Formalize and structure employer involvement in the quality assurance process.
3. Regularly collect and report key performance indicators related to programme quality.

V. SUMMARY

The review panel commends Panevėžys Kolegija for its thorough preparation of the Self-Evaluation Report (SER) and for facilitating an open and constructive site visit. The engagement of both academic staff and social partners in discussions reflected the institution's commitment to continuous improvement and transparency.

Strengths Across Evaluation Areas:

The Electronics Engineering and Robotics (EER) programme demonstrates strong alignment with national education standards and regional labour market needs. The curriculum is clearly structured, offering students flexibility through elective modules and personalized learning pathways. The integration of practical training ensures that graduates are equipped with competencies relevant to the evolving fields of electronics and automation.

A significant strength lies in the applied nature of both teaching and research activities. The active involvement of staff and students in industry-linked projects, combined with solid cooperation with local companies, enriches the learning experience and strengthens the programme's relevance. The recently enhanced research initiatives and participation in international projects such as Erasmus+ further reflect the institution's drive towards innovation and internationalization.

During the evaluation period, no students were enrolled in the Electronics Engineering and Robotics (EER) programme; therefore, no current student feedback or performance data could be collected. Nonetheless, the College maintained internal quality assurance processes, including programme monitoring and updates by the Study Programme Committee. Improvements—such as revisions to programming subjects and the approval of a new modular structure in 2023—were implemented based on external evaluation recommendations. While general study information and institutional procedures are published on the College's website, the report does not specify whether detailed evaluation outcomes or planned improvements specific to the EER programme are made publicly available..

The teaching staff are dedicated and qualified, contributing positively to the delivery of the programme. Internal quality assurance systems are operational, with evidence of data-driven improvements and stakeholder involvement in programme development.

Areas for Improvement:

Despite these strengths, several areas warrant attention. The curriculum would benefit from a stronger integration of emerging technologies such as Artificial Intelligence, Internet of Things, and Cybersecurity to ensure alignment with global technological advancements. While cooperation with industry is evident, expanding engagement beyond local stakeholders to include international industry trends would enhance the programme's competitiveness.

Student participation in research dissemination, such as publications and international conferences, remains limited. Structured initiatives to encourage student-led research and mentorship could address this gap.

While internationalization efforts are underway, reliance on a narrow recruitment focus poses risks. A broader, more diversified strategy for attracting international students is recommended, along with improving the visibility and content of English-language web resources.

The proportion of academic staff holding doctoral degrees could be increased, and greater emphasis should be placed on promoting continuous professional development and staff mobility programmes.

Finally, although internal quality assurance processes are functional, enhancing student involvement in these processes and improving public transparency of quality outcomes would contribute to a more robust quality culture.

Conclusion:

The review panel extends its gratitude to Panevėžys Kolegija for its professionalism, openness, and evident commitment to delivering high-quality applied education. The institution has laid a strong foundation for its Electronics Engineering and Robotics programme. By addressing the identified areas for improvement, it will be well-positioned to further strengthen its academic offering and respond effectively to both regional and international challenges in engineering education.