SKVC

ELECTRONIC ENGINEERING FIELD OF STUDY

Vilnius University

EXTERNAL EVALUATION REPORT

Expert panel:
1. Panel chair: Sean Mc Grath
2. Academic member: Mariusz Stępień
3. Academic member: Marios Kasinopoulos
4. Social partner representative: Saulius Stanevičius
5. Student representative: Ugnė Viktorija Paulikaitė

SKVC coordinator: Daiva Buivydienė

CONTENTS

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 (5 points), 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 10 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 no need for translation and the meetings were conducted in English.

1.4. BACKGROUND OF THE REVIEW

Overview of the HEI

Vilnius University (VU), established in 1579, is Lithuania's oldest and largest higher education institution, operating as a public university. With a history that spans over four centuries, VU plays a pivotal role in the country's academic, cultural, and scientific development. It is governed through a structured model consisting of the Senate, the Council, and the Rector, ensuring both academic leadership and administrative oversight.

The university is organized into 15 core academic units, including 11 faculties and specialized institutes, centres, and schools. Studies and research are conducted across a wide range of disciplines, including humanities, social sciences, natural sciences, medical and healthcare sciences, and technological sciences. VU offers over 90 undergraduate and 110 master's and professional study programmes, alongside nearly 30 doctoral fields.

The Faculty of Physics, one of the core academic units at VU, is responsible for delivering programmes in the field of Electronics Engineering. Following a major restructuring between 2016 and 2018, the faculty now comprises five main departments and an additional CERN-affiliated research centre. It operates a range of undergraduate and postgraduate programmes, including Electronics and Telecommunication Technologies, which is central to this review. This faculty actively integrates research and teaching, aligning academic output with industry needs and technological advancement.

Overview of the study field

The field of Electronics Engineering at Vilnius University is integrated within a broader academic and research framework that emphasizes interdisciplinary collaboration, innovation, and responsiveness to societal and industrial needs. Delivered by the Faculty of Physics, the study programmes in Electronics and Telecommunication Technologies reflect VU's strategic aim to strengthen its contribution to Lithuania's high-tech sector and global knowledge economy. These programmes are grounded in a solid foundation of physics and engineering principles, and they benefit from the University's strong reputation in both fundamental and applied sciences. By embedding engineering studies within a research-rich environment, the University ensures that students gain not only academic knowledge but also practical competencies aligned with the needs of the labour market.

Strategically, the University fosters partnerships with high-tech industries, research institutions, and international networks to support innovation and student development. Companies such as Teltonika, Light Conversion, and Brolis Semiconductors collaborate actively with the faculty, providing internships, feedback on curriculum development, and employment opportunities for graduates. Participation in international initiatives, such as the ARQUS Alliance, further enhances the academic environment by promoting mobility and research collaboration. This synergy between academia, industry, and research institutions ensures that the Electronics Engineering field remains dynamic and aligned with both national priorities and European technological advancement goals

The last external evaluation of the Electronics and Telecommunication Technologies study programmes at Vilnius University was conducted in 2012. Both the first-cycle and second-cycle programmes were positively assessed and accredited for the maximum duration of six years. In 2019, the accreditation was extended by the order of the Director of the Centre for Quality Assessment in Higher Education until the current evaluation. The current evaluation uses a different methodology, with updated evaluation areas and criteria.

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's 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 and Telecommunication Technologies
State code	6121EX001
Type of study (college/university)	university
Mode of study (full time/part time) and nominal duration (in years)	Full-time, 4 years
Workload in ECTS	240
Award (degree and/or professional qualification)	Degree of Bachelor of Engineering Sciences
Language of instruction	Lithuanian
Admission requirements	Secondary Education
First registration date	1997-05-19 Nr. 565
Comments (including remarks on joint or interdisciplinary nature of the programme, mode of provision)	

Second cycle/LTQF 7

Title of the study programme	Electronics and Telecommunication Technologies
State code	6211EX001
Type of study (college/university)	university
Mode of study (full time/part time) and nominal duration (in years)	Full-time, 2 years
Workload in ECTS	120
Award (degree and/or professional qualification)	Bachelor's degree in Physical, Engineering and Technological Sciences
Language of instruction	English
Admission requirements	Degree of Master of Engineering Sciences
First registration date	1997-05-19 Nr. 565
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 Electronic Engineering field of study is given a **positive** evaluation.

No.	Evaluation Area	Evaluation points[1*]
1.	Study aims, learning outcomes and curriculum	4
2.	Links between scientific (or artistic) research and higher education	4
3.	Student admission and support	4
4.	Teaching and learning, student assessment, and graduate employment	4
5.	Teaching staff	4
6.	Learning facilities and resources	3
7.	Quality assurance and public information	4
	Total:	27

The **second cycle** of the Electronic Engineering field of study is given a **positive** evaluation.

No.	Evaluation Area	Evaluation points[2*]
1.	Study aims, learning outcomes and curriculum	4
2.	Links between scientific (or artistic) research and higher education	4
3.	Student admission and support	4
4.	Teaching and learning, student assessment, and graduate employment	4
5.	Teaching staff	4
6.	Learning facilities and resources	3
7.	Quality assurance and public information	4
	Total:	27

[1,2*]

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

FACTUAL SITUATION

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

The aims and learning outcomes of both the bachelor's and master's programmes in Electronics and Telecommunication Technologies are closely aligned with labour market demands and societal trends. The programmes were restructured in 2018 to better reflect technological advancements and industry expectations. This included changing the programme title and shifting focus towards practical applications in modern electronics and telecommunications. Graduates are prepared for roles in engineering, research, product development, and project leadership in high-tech companies such as Telia, Ekspla, Ruptela, and Femtika.

The programmes align with national strategic documents, including Lithuania's Progress Strategy "Lithuania 2030" and the Innovation Development Programme 2021–2030. They also correspond with the European Union's technology priorities, such as the European Chip Act, which anticipates a doubling in semiconductor demand by 2030. This connection to national and EU-level policy reflects the relevance of the study programmes not only to immediate industry needs but also to long-term economic development strategies. Learning outcomes were formulated in accordance with the Lithuanian Qualifications Framework and legal regulations defining qualification levels and professional standards, ensuring that graduates are equipped to contribute meaningfully to Lithuania's innovation ecosystem.

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

The study programmes in *Electronics and Telecommunication Technologies* are closely aligned with the broader institutional mission and strategic objectives of the higher education institution. The programmes are designed to cultivate graduates who are capable of addressing complex engineering challenges, driving technological innovation, and contributing to both scientific research and industrial advancement. These aims reflect a commitment to academic excellence, innovation, and the development of socially responsible professionals.

The programme structure emphasizes a strong theoretical foundation, particularly in physics, combined with the development of practical engineering skills. This integration of rigorous scientific knowledge with applied competencies prepares students to adapt to diverse professional environments and respond effectively to the evolving needs of high-tech industries.

The strategic orientation of the institution toward interdisciplinary learning, international cooperation, and integration of research and teaching is clearly reflected in the design and delivery of these programmes. The inclusion of English-taught master's level studies supports the institution's goals of fostering a global academic environment and enhancing the international competitiveness of its graduates. Additionally, the adaptability of the curriculum allows students to tailor their academic pathways in accordance with emerging technological trends and career aspirations.

Overall, the programmes support the institution's long-term vision by preparing graduates who are not only technically proficient but also capable of contributing to the broader goals of societal development, innovation, and international collaboration.

ANALYSIS AND CONCLUSION (regarding 1.1.)

The *Electronics and Telecommunication Technologies* study programmes at Vilnius University demonstrate a strong and deliberate alignment with the needs of Lithuania's labour market, societal priorities, and the strategic goals of the institution. The programmes are developed and continuously updated based on input from industry leaders, national development strategies, and European policy directions, ensuring their ongoing relevance and impact. Their structure effectively integrates both theoretical and practical components, preparing graduates for employment in high-tech sectors and for further academic pursuits.

Moreover, the programmes are clearly embedded within the broader mission of the University, contributing to interdisciplinary education, innovation, and international cooperation. The alignment across societal, economic, and institutional levels supports the conclusion that the aims and learning outcomes of the study programmes are coherent, purposeful, and strategically grounded.

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

FACTUAL SITUATION

1.2.1. Programmes comply with legal requirements

The Electronics and Telecommunication Technologies study programmes at Vilnius University strictly adhere to the legal and regulatory framework governing higher education in Lithuania. These include compliance with the Lithuanian Qualifications Framework, the General Requirements for the Provision of Studies, the Description of Study Cycles, and the specific descriptors for Engineering Sciences. The first cycle (Bachelor) programme is structured with 240 ECTS credits, aligning with level 6 of the qualification's framework, while the second cycle (Master) programme comprises 120 ECTS credits, corresponding to level 7. Both programmes meet or exceed all minimum standards regarding credit allocation for field-specific courses, internships, final theses, and contact hours. Furthermore, all study modules are designed as multiples of 5 ECTS credits, as mandated, and the workload per credit hour (28 hours) falls within the acceptable range of 25–30 hours. The programmes also meet academic and professional requirements through a balance of theoretical and practical components, regular curriculum updates, and integration of research-led teaching. These measures ensure the programmes' full legal conformity while equipping students with the qualifications and competencies expected at their respective levels of study. During the on-site visit, discussions arose regarding the program title. It was noted that the current title, *"Electronics and Telecommunications,"* may not adequately reflect the program's strong emphasis on physics. Additionally, students indicated a desire for increased hands-on experience earlier in the curriculum.

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

The study programmes in *Electronics and Telecommunication Technologies* are well-aligned with the mission, strategic goals, and academic vision of the higher education institution. The institutional mission, which emphasizes the advancement of knowledge, the promotion of innovation, and the development of responsible and creative professionals, is reflected in both the structure and content of the programmes. The curriculum is designed to equip students with the competencies needed to solve complex technological problems, develop advanced products and systems, and contribute meaningfully to both scientific research and industrial innovation.

This alignment is evident in the deliberate integration of a strong theoretical foundation, particularly in physics, with practical engineering applications. This approach prepares graduates to adapt across multiple domains, supporting a flexible and resilient professional profile. The emphasis on foundational knowledge is complemented by efforts to strengthen hands-on experience, reflecting

the evolving expectations of industry and the increasing need for graduates who are not only knowledgeable but also proficient in applying that knowledge in real-world contexts.

Strategically, the programmes support institutional goals related to interdisciplinary education, internationalisation, and the integration of research and teaching. The master's programme, delivered in English, serves to attract international students and foster a globally engaged academic environment. Individualised study pathways, a broad selection of elective modules, and growing collaboration with international academic and industrial partners further reinforce the programmes' responsiveness to both national and international strategic priorities.

In doing so, the programmes contribute to the broader institutional objective of cultivating a collaborative and sustainable academic community that supports innovation, scientific excellence, and societal advancement at both local and global levels.

1.2.3. Curriculum ensures consistent development of student competences

The curriculum of the Electronics and Telecommunication Technologies study programmes is structured to ensure the consistent and progressive development of both general and subject-specific competences across all years of study. From the first year, students are introduced to foundational subjects such as mathematics, physics, programming, and introductory engineering, which build essential analytical and technical skills. As students advance, the curriculum integrates more specialized modules in telecommunications, electronics, microcontrollers, signal processing, and high-frequency systems, allowing them to deepen their expertise and apply theoretical knowledge in practical contexts.

Competences are reinforced through laboratory work, individual and group projects, internships, and a final thesis, all designed to foster critical thinking, problem-solving, and independent research abilities. Optional modules and individual study opportunities also allow students to tailor their learning paths in line with personal interests and career goals, ensuring balanced growth in academic, technical, and professional competences throughout the programme duration.

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

The study programmes in *Electronics and Telecommunication Technologies* provide students with meaningful opportunities to personalise their academic pathways in alignment with their individual learning goals and intended career outcomes. This flexibility is embedded in the programme structure through a combination of compulsory core modules and a broad selection of elective courses, which allow students to deepen their expertise in areas of particular interest, such as embedded systems, radio frequency technologies, microcontrollers, or network engineering.

In the early stages of the programme, students develop foundational knowledge across physics, electronics, and programming, ensuring a common academic baseline. As they progress, they are increasingly able to shape their academic profile through optional modules and specialisation tracks. This structure enables students to tailor their studies toward either more theoretical, research-oriented outcomes or applied engineering roles in industry. For example, students with a preference for hands-on technical work may focus on modules involving practical electronics design, simulation tools, and lab-based experimentation, while those considering further study or research can engage with advanced theoretical and scientific content.

Individualisation is further supported by opportunities for participation in research projects, internships, and industrial collaboration. Students are encouraged to engage with scientific laboratories, undertake independent research assignments, or complete professional practice in

high-tech companies, depending on their professional ambitions. Both pathways are valued equally and are designed to accommodate diverse aspirations, whether students aim for doctoral studies, R&D positions, or applied engineering roles in industry.

Academic advising and mentoring structures play a role in guiding students through the curriculum choices available, ensuring alignment between course selections and the development of the competences needed to achieve the intended learning outcomes. Feedback mechanisms and programme updates based on stakeholder input also ensure that elective offerings remain responsive to technological trends and labour market needs.

Through this design, the programme maintains both coherence and flexibility, enabling students to exercise autonomy in shaping a learning experience that aligns with their personal goals, while ensuring that all graduates attain the competencies required for successful professional or academic progression.

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

The final theses completed within the *Electronics and Telecommunication Technologies* study programmes are consistent with the academic standards and methodological expectations appropriate to their respective study cycles. Bachelor's theses display a firm grasp of foundational knowledge in electronics, telecommunications, and applied physics, often incorporating experimental work, simulations, or systems analysis. Topics such as low-frequency noise spectroscopy, charge carrier transport in semiconductors, and laser system optimisation reflect both scientific depth and technical relevance. These works demonstrate students' ability to apply theoretical principles to practical problems, meeting the intended outcomes of first-cycle education.

At the master's level, the complexity and interdisciplinary nature of theses increase substantially. Projects include areas such as electromagnetic compatibility in satellite communication bands, advanced machine learning applications in network systems, and experimental studies of metasurfaces and nanomaterials. The academic rigour, independent research, and integration of innovative technologies evident in these works are aligned with the expectations of second-cycle studies and demonstrate readiness for progression to doctoral research or high-level industrial roles.

During site discussions, faculty members noted the close integration between thesis topics and ongoing research or industrial developments. Supervisors actively encourage students to pursue applied or experimental projects in collaboration with external partners, national research institutes, or through university-industry initiatives. This is supported by teaching staff who maintain continuous engagement with students throughout the thesis development process, fostering a strong academic and mentoring environment.

Students confirmed that final theses are an opportunity to consolidate both theoretical and practical skills developed during the programme. Many reported high levels of autonomy, active use of laboratory infrastructure, and the opportunity to work on real-world problems. Several students pursue thesis work within research laboratories, while others engage with companies, illustrating the programme's flexibility in accommodating different professional and academic goals.

External stakeholders also highlighted the importance of project-based and hands-on experience, noting that graduates with thesis experience in system design, signal processing, or hardware development enter the workforce with a competitive advantage. This feedback reinforces the view that final theses serve not only as academic capstones but as a bridge to employment or further study, grounded in industry-relevant challenges.

ANALYSIS AND CONCLUSION (regarding 1.2.)

The Electronics and Telecommunication Technologies programmes at Vilnius University demonstrate full compliance with Lithuanian higher education regulations, including the Qualifications Framework and Engineering Science descriptors. The Bachelor's and Master's programmes meet or exceed standards in credit allocation and curriculum design, ensuring legal and academic alignment.

The curriculum supports progressive competence development through a balance of theory and practice. Foundational subjects in physics, mathematics, and programming evolve into advanced studies in electronics and telecommunications, supported by labs, internships, and final theses. Final projects reflect both academic standards and real-world applications, helping students transition into research or industry.

The programmes align well with the university's goals, promoting innovation and internationalisation. Flexibility is offered through electives and mentoring, allowing students to tailor their learning paths. However, feedback suggests the programme could benefit from including core subjects in Economics and Project Management, and from making more telecommunications-related content compulsory, given the programme's title.

In summary, the programmes are academically robust and professionally relevant. Minor improvements, such as clearer alignment of course titles with content and enhanced early practical exposure, would further strengthen an already effective educational offering.

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	
Second cycle				X	

RECOMMENDATIONS

For further improvement

1. Adjust Programme Title: consider revising the programme name to better reflect its strong emphasis on physics, ensuring alignment between title and content.
2. Increase Early Practical Exposure: Strengthen hands-on learning opportunities in the early years of study to better meet student expectations and industry needs.
3. Include Core Managerial Skills: Integrate subjects such as Economics and Project Management into the core curriculum to enhance graduates' readiness for leadership and decision-making roles.
4. Reassess Telecommunications Content: Review the status of telecommunications-specific courses, currently optional (approx. 20 ECTS), to ensure the core curriculum fully supports the programme's focus and title.

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

FACTUAL SITUATION

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

The results of the expert evaluation of R&D activities of the university are detailed and they are sound. Specific information is provided in the SER regarding the methodology applied for the planning of the current and future topics of the research activities. An important factor for the topic selection is the interest and consciousness of the academic staff, the existing or planned collaborations with external institutions and organizations and the participation in international research projects funded by external sources like EU. Priority is given to research topics which are directly related to the field of studies carried out by the VU. Some examples of research projects are the following: "Hybrid gels for electromagnetic applications", "European Network of Future Generation Optical Wireless Communication Technologies", "European Network for High-Performance Integrated Microwave Photonics", and others.

 Information is given for certain projects with external partners, during the last 3 years, in which the research projects are closely related to the study field. For example, "Advancement and Innovation for Detectors and Accelerators" which is funded by EU- Horizon programme with partners from 47 leading institutions. Some other international projects related to the study programme have been implemented also in collaboration with external partners and funded by the COST action programme. There are also many research projects with funding from local organizations like Research Council of Lithuania which are directly related to the study field carried out at the university. It is clear that the overall research activities within the field study are at a very good level. However, no clear and convincing information is provided regarding plans for scientific research activities and their financial viability. The collaboration in international funded projects with external institutions like the Institute of Physics at Goethe University Frankfurt which already exist, creates the opportunity for further funded collaborations which could improve the future financial viability of the overall research activities.

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

The way in which the latest development in science and technology are integrated into the different subjects of the Electronics program is clearly described. It is done in different ways, some of which are explained below:

the academic staff integrates the results of their research into their lecturing subjects, students' final thesis, assignments, projects and seminars. The academic staff responsible for the professional practice brings also new technology into the program from industry because of their collaboration with the employers. The curriculum is also linked to the latest developments in science and technology through the library which purchases new editions of books with the latest development in Electronics like AI and recent scientific magazines including publications and journal papers.

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

The study programmes in *Electronics and Telecommunication Technologies* provide cycle-appropriate and well-integrated opportunities for student research engagement. These opportunities reflect both the academic objectives of each study cycle and the practical expectations of the field, ensuring that students progressively develop the skills and mindset required for independent inquiry.

At the bachelor's level, students begin engaging in research through structured laboratory work, supported by coursework in physics, programming, and electronics. As students advance, they are gradually introduced to more independent tasks that require the application of scientific principles to engineering challenges. This culminates in the final thesis, where students select and investigate topics ranging from materials analysis to signal processing and applied measurement systems.

An important aspect confirming the involvement of students in research is their inclusion in the process of publishing scientific results in journals and during scientific conferences. The activity of students in these forms of academic development is visible (12 co-authored publications in journals and 27 conferences with student participation in the last four years), what was confirmed by VU by supplementary materials prepared upon Experts' request.

During discussions with undergraduate students, many highlighted their transition from theoretical to more applied research topics over the course of the programme. While some initially found the experience overwhelming, they noted increasing confidence and competence, particularly in laboratory environments. Students expressed a desire for more structured support during early-stage lab work, particularly in understanding research methods and documentation practices. However, by the later stages of the programme, many reported becoming actively involved in real experiments, simulations, and design projects. Several described the use of professional tools and equipment, as well as increased collaboration with faculty, indicating that the undergraduate research environment supports skill development in alignment with first-cycle outcomes.

At the master's level, research engagement is characterised by a greater degree of independence, complexity, and integration with current scientific and technological trends. Master's students confirmed they were actively involved in advanced research projects, often linked to national or international industry initiatives. Many indicated they were working on theses that required in-depth analysis, original data collection, and the application of specialised tools such as machine learning, impedance spectroscopy, and software-defined radio. These projects are often developed in close collaboration with research staff or external partners, allowing students to explore topics at the frontier of their field.

Academic staff consistently emphasised that master's students are expected to function as junior researchers. They are given responsibility for their own project planning and execution and are often included in faculty-led research groups. Several staff described supervising theses that were embedded within broader scientific collaborations or industrial applications. In many cases, students are offered the flexibility to align their research work with either academic goals or real-world engineering problems, depending on their career intentions.

Feedback from social partners reinforced the view that the integration of research and teaching is a defining strength of the programmes. Employers noted that graduates who had taken part in meaningful research were often better equipped for innovation-oriented roles. The flexibility for students to conduct applied research either in-house or through industrial internships was considered a valuable aspect of their preparation.

ANALYSIS AND CONCLUSION (regarding 2.1.)

The integration of research into higher education at the university is strong and well-structured. Academic staff actively incorporate current scientific developments into teaching, while students at all levels engage in research projects that align closely with institutional priorities. Involvement of students in preparation of scientific papers and participation in conference are visible, but range of the participation and contribution from students' side could be improved. Collaboration with industry and international partners enriches both curriculum and research outcomes.

However, there is no clear long-term strategy to ensure the future financial viability of research activities. International cooperation, while present, could be expanded both in scale and impact. Additionally, students would benefit from more structured support in early-stage research training.

Overall, the university demonstrates effective alignment between research and education, but it should strengthen future planning, international engagement, and foundational research training to maintain and enhance its achievements.

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	
Second cycle				X	

RECOMMENDATIONS

For further improvement

1. Make an effort to increase the number of international partners and collaborate in research projects giving priority to the direct relation with the scientific educational programme caried out in the university.

2. Make a plan for future international research collaboration, taking in account the financial viability of the new planned research activities.

3. Increase number of students and range of activities related to involvement of students in scientific conference and publication process.

AREA 3: STUDENT ADMISSION AND SUPPORT

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

FACTUAL SITUATION

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

The student selection and admission procedures for the *Electronics and Telecommunication Technologies* programmes are clearly defined, consistently applied, and accessible to all prospective applicants. The process is structured in accordance with national higher education regulations and institutional guidelines, ensuring transparency and equity in student admission. Admission criteria

are publicly available, and the procedures are administered centrally, thereby minimising bias and supporting consistent application of entry standards.

For the first-cycle programme, selection is based on the applicant's final school examination scores, with particular emphasis on subjects relevant to the field such as mathematics, physics, and language proficiency. For the second-cycle (master's) programme, eligibility is typically determined by the successful completion of a bachelor's degree in a related discipline, and students may be evaluated on academic performance, motivation, and, in some cases, prior experience or research engagement. These criteria ensure that incoming students possess the foundational knowledge and competencies required for success at their respective level of study.

Feedback from students during the site visit indicated general satisfaction with the admission process. Students reported that information on the programmes was accessible and that admission procedures were straightforward and clearly communicated. The ability to apply online and receive timely feedback was noted as a strength. Some students chose the programme specifically due to the broad range of opportunities it offers, including the option to pursue interdisciplinary or research-based career paths, indicating that the selection process aligns well with student motivations and programme objectives.

Academic staff also confirmed that student intake is closely monitored and that the admission system allows for fair competition among applicants. Discussions highlighted the importance of attracting motivated and capable students while maintaining academic standards. The integration of peer mentoring and support during the early study period helps students adapt effectively after admission, especially those transitioning directly from secondary education.

From a broader perspective, the outcomes of recent sociological surveys support the view that admitted students are generally well-matched to the programmes. A significant portion of respondents agreed that the competences gained during their studies were in demand and that the knowledge acquired contributed to their career goals. While not directly focused on the admission process, this feedback suggests that the selection criteria result in the admission of students who are capable of completing the programme and transitioning successfully into employment.

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

The right to recognize foreign qualifications is given to the universities by the Ministry of Education and the procedure applied by VU for the recognition is based on various international principles and practices (SER). For example, the Lisbon Recognition Convention, the Methodology of Evaluating Education and Qualifications Concerning Higher Education and other documents. The main criterion is that the education previously acquired by the applicants should be very close to the VU educational program, for the level of studies required by the applicant. Most of the applicants require recognition to enter the second cycle. The applications for recognition are examined by the Student Admission Sub-Division. The evaluation of academic recognition and decision is taken individually based on the available information and the practice applied in similar cases. For the period 2021-2023 more than 50 requests for the recognition of foreign qualifications were submitted and as for May 2024 the number of applicants was 54. This shows a great, and growing interest for the Electronics program in VU. For formal studies no more than 75% of the study program may be recognized.

For non-formal studies and acquired knowledge with alternative methods like employment, self-education, internships, training etc the responsible body of VU for the recognition of acquired

competences and learning outcomes is the SPC. The methodology applied is approved by the VU Senate Decision no SPN-63 (2019). No more than 50% of the study programme can be recognized in these cases.

The methodology applied and procedure used, for the academic recognition and crediting for both cases formal and non-formal education, are very well explained and implemented. Statistics on the numbers of recognized qualifications for students with formal and non-formal education as well as information on successful and failed cases including the reasons for non-accreditation, for the last 3 years, are not provided in the SER.

ANALYSIS AND CONCLUSION (regarding 3.1.)

The student admission process for the Electronics and Telecommunication Technologies programmes is clearly defined, transparent, and aligned with both institutional goals and national regulations. Admission criteria emphasize academic performance in relevant subjects, ensuring that selected students have the foundational knowledge needed to meet programme learning outcomes. The procedures are consistently applied and well-communicated, with both students and academic staff expressing satisfaction regarding clarity, accessibility, and fairness. Additional support mechanisms, such as peer mentoring, facilitate student transition and integration, particularly for those entering from secondary education. The alignment between student motivations, admission criteria, and programme objectives further confirms the effectiveness of the selection process.

Recognition of foreign qualifications and prior learning follows established international practices, ensuring that applicants with diverse educational backgrounds are assessed fairly. However, the lack of statistical data on the outcomes of recognition decisions limits transparency and hinders comprehensive evaluation of this process. Overall, the admissions system demonstrates strong alignment with the programme's learning outcomes and student needs, but would benefit from improved data reporting to support ongoing quality assurance and decision-making.

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

FACTUAL SITUATION

3.2.1. Opportunities for student academic mobility are ensured

In VU administration there is an International Relations Office (IRO) and a Coordinator in the faculty which informs students about the existing mobility opportunities. Together with Core Administration Unites (CAU) the IRO provides all the required information and assistance to complete the various related applications and documentation required to help interested students. More specifically IRO and CAU, organize information meetings, newsletters publication, info on the web, publish printed material, and coordinate the whole process implementation. From the information provided in SER and the meetings during the visits it is evident that the publicity of the main mobility program Erasmus+ is sound.

Opportunities for mobility are also offered to students in case of participation in two networks of certain universities ARQUS and COIMBRA, in which VU is member. Some useful information on these networks is provided.

Taking in account the total number of students provided by VU, the input mobility in this period is good. For example, in 2022-23 there were 16 incoming students (12 BSc and 4 MSc). The outgoing mobility, according to provided information, for both cycles is low. For example, in 2022-23 there were only 3 students in the BSc programme and 0 in the MSc. These 3 students visited France and Portugal. More information about duration and chosen courses is not provided. The reasons for the low mobility expressed by students during the visits are mostly social and financial. As the students explained, some of them do not want to leave their families or their wives and some are working, and they do not want to leave and lose their work and the salaries they get.

There is a relatively important number of foreign students who study the MSc programme full time. According to the statistics, the foreign students are about 50% of the total number of students. For example, in 2022-23 there are 8 foreign students out of 23 local students.

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

Students enrolled in the *Electronics and Telecommunication Technologies* programmes benefit from a comprehensive and accessible support system that addresses academic, financial, social, and personal needs. The support available is well-aligned with student expectations and institutional commitments to student welfare and academic success.

Feedback from students during the site visit confirmed that teaching staff are approachable and responsive, often providing ongoing academic guidance beyond scheduled classes. Students particularly valued regular interaction with lecturers and noted that early concerns, especially regarding laboratory work and academic transition, were addressed effectively over time. Mentoring initiatives involving senior students were also appreciated, though some noted these could be further strengthened in terms of availability.

Support structures include financial aid, academic counselling, psychological services, and access to research or internship opportunities, allowing students to tailor their educational paths to individual goals. The flexibility to engage in either research-focused or industry-aligned activities was seen as particularly valuable by students and staff alike. These options support students' ability to pursue diverse career directions while developing both personal and professional competencies.

Survey data further indicate that students generally felt supported in their academic progression, with many reporting satisfactions with their overall study experience, the relevance of gained competences, and employment opportunities after graduation. While some challenges were acknowledged, particularly during the initial transition period, students consistently described the support system as sufficient and responsive.

Overall, the support provided to students is coherent with their evolving needs throughout the study cycle. It contributes positively to student retention, engagement, and readiness for future academic or professional pursuits.

3.2.3. Higher education information and student counselling are sufficient

The provision of information and counselling services for prospective and current students is clearly established and functions effectively within the *Electronics and Telecommunication Technologies* programmes. Prospective students have access to transparent and detailed information regarding admission criteria, programme content, study structure, and career opportunities. This information is

disseminated through institutional websites, open days, and communication campaigns, ensuring accessibility and clarity.

During the site visit, students reported that they were well-informed prior to enrolment and found the application process clear and manageable. Several indicated that programme information had played a role in their decision to choose this particular field of study, especially the opportunity for interdisciplinary learning and future flexibility.

Upon enrolment, student counselling continues through both formal and informal channels. Academic advisors, teaching staff, and designated faculty coordinators provide guidance on course selection, academic planning, and progression. Students expressed that staff are approachable and helpful, particularly when navigating elective options or thesis topic selection. Peer mentoring initiatives also support first-year students in adapting to university life, offering an additional layer of informal guidance.

Survey data and qualitative feedback suggest that while some students initially experienced challenges, especially in adjusting to laboratory work and independent study, the availability of academic and administrative support helped mitigate these issues. Students noted that they knew where to seek help when needed and felt encouraged to consult academic staff on both academic and personal matters.

In summary, the availability and quality of higher education information and counselling services are appropriate and tailored to the needs of students. They support informed decision-making before entry, academic planning during studies, and contribute to a supportive and student-centred learning environment.

ANALYSIS AND CONCLUSION (regarding 3.2.)

Students at Vilnius University benefit from a comprehensive and responsive support system that effectively meets academic, personal, financial, and social needs. There is a well-organized, structured system to aid Erasmus+ mobility for both incoming and outgoing students, and the number of incoming students is at a good level. However, the number of outgoing students remains low, despite the university's strong efforts to promote participation. Based on information from the SER and discussions with students and staff, financial and social constraints, such as work commitments and family ties, are the primary barriers. Notably, the MSc programme taught in English attracts a significant number of full-time international students, which is a strength that could be further enhanced. Students report that academic staff are approachable and supportive, and that counselling and mentoring services are generally effective, with some room for expansion. Overall, the support structures in place contribute significantly to student satisfaction, progress, and readiness for future academic or professional paths.

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	

Second cycle				X	

RECOMMENDATIONS

For further improvement

1. Collect statistics on the applications for recognition of foreign qualifications, approved and rejected and possibly include the reasons of rejections.

2. Continue the effort to increase the number of outgoing students by improving as possible the scholarships and other financial problems.

3. Improve the attractiveness of the VU MSc programme in English language, among the BSc students in VU and other universities locally and abroad.

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

4.1.	Students are prepared for independent professional activity

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 approach within the *Electronics and Telecommunication Technologies* programmes is clearly structured to support students in achieving the intended learning outcomes at both undergraduate and graduate levels. The curriculum design integrates theoretical knowledge with practical application, ensuring that students develop both a strong academic foundation and the technical skills required by the industry.

During the site visit, students expressed appreciation for the strong grounding in physics and engineering principles, which was consistently recognised as a core strength of the programme. Both students and external stakeholders highlighted the balance between scientific depth and applied competencies as particularly valuable in preparing graduates for versatile roles in the job market. Feedback from industry representatives confirmed that graduates are well-prepared, especially in terms of problem-solving ability, analytical thinking, and adaptability.

While some students noted initial challenges in adjusting to the academic demands and navigating laboratory work, they also emphasised the responsiveness of teaching staff and the progressive increase in practical, hands-on experience. This was especially evident in the later stages of the programme, where students engage in project work, group assignments, and thesis preparation, opportunities that were seen as crucial for consolidating learning outcomes.

Teaching methods include lectures, seminars, laboratory sessions, individual consultations, and group-based projects, offering a varied and inclusive learning environment. Several students commented positively on the flexibility of the programme to accommodate different learning needs and career interests. Elective courses, research projects, and the option to engage in industrial practice further support personalisation and alignment with intended outcomes.

During discussion at the site visit and also when analysing SER materials, it was observed strong purely physical approach unbalanced by engineering approach, which would be expected for students of engineering field of study.

Staff commitment to continuous improvement and feedback-based adaptation was also noted. Students reported that lecturers were open to suggestions and that programme updates had already incorporated feedback from both student groups and employers.

Overall, the teaching and learning strategies effectively support student progression and achievement. The structure, delivery methods, and academic environment collectively address student needs and equip graduates with the knowledge, skills, and attitudes required to meet both academic expectations and professional demands.

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

The *Electronics and Telecommunication Technologies* programmes are implemented within an inclusive institutional framework that supports access for socially vulnerable groups and students with individual needs. Financial support mechanisms, such as tuition-free places, merit-based scholarships, and social stipends, help reduce economic barriers to entry. Students interviewed during the site visit noted that access to financial assistance was a decisive factor in their ability to pursue studies, especially for those balancing academic work with employment or personal responsibilities.

Institutional flexibility further supports inclusivity. Teaching staff indicated that accommodations are regularly made for students who face individual challenges, including health-related issues, work obligations, or family responsibilities. Students confirmed that staff were approachable and willing to adjust deadlines or offer personalised academic guidance when needed.

Survey data reinforces these observations from documentation submitted. A substantial portion of respondents reported being able to combine studies with work, and the majority expressed satisfaction with the conditions of study and their overall university experience. While some challenges were noted, the feedback suggests that students felt supported and were able to navigate the programme successfully, even in complex personal circumstances.

Additionally, informal support structures such as peer mentoring and student representation help foster a sense of belonging. First-year students particularly valued the opportunity to receive guidance from more experienced peers, aiding their transition into university life.

ANALYSIS AND CONCLUSION (regarding 4.1.)

The Electronics and Telecommunication Technologies programmes effectively prepare students for professional work by combining strong theoretical foundations with practical skills. Teaching methods are varied and adaptable, supporting diverse learning needs and career goals. Students and employers confirm graduates are well-prepared, particularly in problem-solving and analytical thinking.

The programme is inclusive, offering financial aid and flexible support for students with individual needs. Overall, the teaching approach and support systems ensure student success and alignment with industry expectations.

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

FACTUAL SITUATION

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

The university monitors the progress of students in various levels: at subject level, at all students at a certain year and the study program.

At all students' level monitoring is done by the Administration of Study Department. They examine the performance of all students and in case they find some problems they discuss them with CAUs and with the study programme committees. They examine mostly the average mark whether is very high or very low compared with previous years.

SACO monitors student drop-out levels. In case a student fails in one or more subjects, receive advice how to be prepared for retake the failed exams and provide him with all required support to face the problem, including lecturer, academic counselling and psychologist if needed.

At subject level, the progress monitoring is under the responsibility of the teacher of the subject. The teacher will provide feedback to students only when the semester is finished, not before. At study programme level monitoring of progress of students is done by the SPC. The SPC aiming to improve the quality of the study programme, makes a detailed analysis of the results of the students all levels, like assignments, projects, final thesis defence etc, including a student's satisfaction survey.

The university aims to provide feedback to students though out their studies. According to Study Regulations each student has a right to access his results of assessment of a specific course. There is a variety of ways to give feedback to students. For example, written exams, laboratory work, seminars, thesis presentations etc. Always the teacher in charge of an assessment should give feedback to the student. This is applied also for the Professional Practice and Scientific Research Work.

The overall monitoring procedure of the university is impressive for both monitoring and feedback to students.

4.2.2. Graduate employability and career are monitored

The employability and career progression of graduates from the *Electronics and Telecommunication Technologies* programmes are effectively monitored through structured engagement with graduates, academic staff, and industry partners. Graduate outcomes are a central consideration in programme development, helping to ensure alignment between academic preparation and labour market expectations.

Employers (Teltonika, FTMC, Iccon Networks, Telia, Bite, NanoAvionics, Ruptela, RRT, Lifodas, Brolis Sensor Technology) who participate in programme evaluations consistently note that graduates are well-equipped for professional roles in fields such as telecommunications, embedded systems, and applied research. Strong analytical skills, a solid foundation in physics and engineering, and the ability to work independently are seen as distinctive attributes of the programme's alumni. According to employment data from VU for 2022 and 2023 graduates with a bachelor's degree in physical sciences, technology and engineering have high employability rate, graduates with a Master's degree in the same fields have even higher employment rate. Most of them are employed either on a contract basis or in their own companies. This confirms the high demand for highly qualified professionals in these fields. Many graduates have taken on advanced positions, including leadership roles in research and development and systems engineering.

Curriculum design responds to ongoing feedback from graduates and social partners. The inclusion of courses in areas such as embedded electronics, Unix systems, and signal processing reflects the competences most valued in the workplace. These adjustments help ensure that graduates are prepared for current technological challenges and emerging trends.

Final thesis work also plays an important role in supporting graduate employability. Many theses are developed in partnership with research institutions or companies, enabling students to gain experience in solving real-world problems. This connection between academic study and applied practice supports both skill development and professional integration.

Students reported that the combination of theoretical depth and practical experience allowed them to transition confidently into employment. Flexibility within the curriculum enabled them to focus on areas aligned with their career interests, whether in industry or continued academic research. During site visit discussions, several graduates described the impact of the programme on their ability to work in diverse roles, including technical, managerial, and interdisciplinary positions.

The programme maintains strong links to the employment sector through regular communication with alumni and social partners. These connections provide valuable insight into graduate career trajectories and support continuous quality enhancement in teaching and learning.

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

Vilnius University employs a comprehensive framework to uphold academic integrity, tolerance, and non-discrimination within its community. This framework is grounded in foundational documents such as the Vilnius University Statute, the Academic Ethics Code of Vilnius University, and the Diversity and Equal Opportunities Strategy for 2020–2025. These documents collectively establish the principles that guide the university's activities and relationships, emphasizing mutual respect, openness to ideas, trust, tolerance, and a balance between autonomy and accountability to the state and society.

To ensure students adhere to academic integrity, various measures are in place. The Academic Ethics Code of Vilnius University, approved by Senate Commission Decision No S-2018-4-4, explicitly defines general ethical norms for academics, teaching, study, and scientific research. It clearly outlines transgressions such as cheating, plagiarism, fabrication, bribery, and illegal assistance in dishonest academic activity. The VU Study Regulations stipulate consequences for violations, ranging from a notice to expulsion from the University. A second notice within the same academic year results in automatic expulsion. Teaching staff are instrumental in upholding these principles during examinations and when evaluating research papers. During exam periods, supervisors from the Students Representation can be requested to assist teachers in monitoring exams and ensuring good faith conduct. Furthermore, VU utilizes a crucial electronic overlapping identification system (ESAS) for final theses and research papers. This system allows for the verification of originality by comparing submitted work against a vast database. Each final thesis supervisor is mandated to review the ESAS report and confirm the absence of plagiarism before authorizing a work for defence.

Cases of breaches concerning academic integrity, tolerance, and non-discrimination are managed through established university regulations. These include the Regulations of the Central Academic Ethics Commission of Vilnius University, the Regulations of the Academic Ethics Commission of Core Academic Units of Vilnius University, and the Regulations of both the Central and Core Academic Units' Dispute Resolution Committees. Notably, over the last three years, no formal cases were brought to the faculties' Academic Ethics Commissions by first and second-cycle students, or

in regard to student conduct. However, there are instances where teachers refuse to accept student work exhibiting obvious signs of plagiarism, leading to students being required to revise their work and retake assessments. In addition to these formal channels, VU provides an anonymous hotline for any member of the academic community to report violations of academic ethics or principles of tolerance and non-discrimination. These anonymous reports trigger prompt assistance from a resolute team of psychologists and lawyers, demonstrating the university's commitment to fostering a supportive and ethical environment.

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

Vilnius University has a clear procedure for students to appeal examination procedures or evaluations, as outlined in the Regulations of the Dispute Resolution Commission of Core Academic Units. If a student disagrees with either the examination process or their grade, they can file a complaint with the Faculty's Appeals Commission within five days of the examination results being published. The decision made by the Appeals Commission regarding the evaluation of an exam is considered final. However, if the appeal concerns the examination procedure itself, the Vilnius University Dispute Resolution Committee can further contest the decision. This multi-tiered system ensures avenues for review and recourse for students. Within the last three years, there were four appeals initiated by students from the Faculty of Physics. It is important to note that none of these appeals originated from study programmes within the specific field currently under evaluation, suggesting that the established procedures are in place and utilized, though not directly pertinent to the immediate focus of this assessment.

Information regarding appeals at Vilnius University (VU) is readily accessible on the university's website. A quick search for "appeal" in the search bar immediately brings up comprehensive details on how to submit an appeal or complaint as the second result. Crucially, this essential information is also available in English, ensuring accessibility for a wider student body, including international students.

During the visit, students consistently expressed that all necessary information about appeals is indeed easy to find. They also highlighted the helpful and supportive nature of the university administration and the Students' Representation. Students confirmed that even if they are unsure about where to begin the appeal process, the university staff and student representatives are readily available and willing to assist without any reservations or complaints. This demonstrates a commitment to transparency and student support in navigating potentially complex administrative procedures.

ANALYSIS AND CONCLUSION (regarding 4.2.)

Monitoring activities of the progress of students are analytically explained, and they are very good. Detailed information is provided regarding monitoring of the progress for each student, all students as a group, and the content of the whole study program, The feedback to students is also clearly detailed together with the appropriate collaboration students with academic staff, regarding the feedback of the student's assessment work.

Vilnius University demonstrates a robust and transparent system for student assessment, progress monitoring, and the assurance of academic integrity. The monitoring activities of student progress are analytically explained and are particularly good, with detailed information provided for individual students, student cohorts, and the overall study program content. This multi-level approach ensures a comprehensive understanding of student performance. Feedback to students is also clearly

detailed, fostering appropriate collaboration between students and academic staff regarding assessment work, which is crucial for self-assessment and learning progress planning.

Furthermore, the university effectively monitors graduate employability and career progression, utilizing feedback from graduates, academic staff, and industry partners to inform curriculum development. This initiative-taking approach ensures graduates are well-prepared for the workforce. Finally, VU has a comprehensive framework for academic integrity, tolerance, and non-discrimination, underpinned by clear policies, an electronic plagiarism detection system, and accessible appeal procedures. The anonymous hotline further underscores the university's commitment to a fair and ethical academic environment. These integrated systems collectively contribute to a supportive and accountable educational experience at Vilnius University.

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	
Second cycle				X	

RECOMMENDATIONS

For further improvement

1. Extend appeal and complaints procedures to cover more aspects of academic life (not only evaluation of study and examination process).

2. To further enhance the existing feedback mechanisms, consider implementing a standardized mid-semester feedback collection process to allow for more timely student support and course adjustments.

3. While current employability monitoring is strong, explore formalizing mentorship programs that connect current students with successful alumni in their specific fields to bridge academic learning with real-world career insights.

AREA 5: TEACHING STAFF

5.1.	Teaching staff is adequate to achieve learning outcomes

FACTUAL SITUATION

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

The teaching staff involved in the *Electronics and Telecommunication Technologies* programmes possess the qualifications, expertise, and experience necessary to support students in achieving the intended learning outcomes at both first and second cycle levels. The academic team includes a

well-balanced mix of professors, associate professors, researchers, and professional practitioners, covering the full range of scientific and engineering disciplines required by the curriculum.

The number of staff is sufficient to deliver the study programme effectively, including specialised modules, laboratory supervision, and thesis mentoring. Class sizes and staff-student ratios allow for direct interaction and ongoing academic support, which students highlighted as a significant strength of their learning experience. Faculty members are actively involved in both teaching and research, with many engaged in externally funded projects and international collaborations, which in turn enrich the learning environment.

The scientific competence of the teaching staff is evident in their involvement in national and international research initiatives, including those related to semiconductors, communications systems, and electronic materials. This research activity is closely integrated with teaching, particularly at the master's level, where students are frequently involved in faculty-led projects or supervised in applied research topics linked to academic or industrial needs.

During the site visit, students and staff alike emphasised the accessibility and dedication of lecturers. Many staff members use ongoing assessment and weekly consultations to support student learning and maintain academic engagement. These didactic practices were seen as effective in reinforcing understanding and promoting student progress, particularly in more technically demanding subjects.

In addition to their academic qualifications, several staff members bring professional experience from industry, which contributes practical insights and ensures the programme remains aligned with evolving engineering practices. The inclusion of part-time lecturers and thesis supervisors from industry further strengthens the applied dimension of the programme and supports the development of labour market-relevant competences.

The combination of research activity, pedagogical effectiveness, and practical engagement ensures that the teaching staff are well-positioned to deliver the programme content and support students in achieving the intended academic and professional outcomes.

ANALYSIS AND CONCLUSION (regarding 5.1.)

The teaching staff involved in the *Electronics and Telecommunication Technologies* programmes are sufficient in number and demonstrate a high level of scientific, didactic, and professional competence, enabling the achievement of intended learning outcomes. Their qualifications span key academic and technological fields, and their engagement in research, international collaboration, and industry partnerships ensures that course content remains current and practically relevant. Students benefit from accessible and supportive academic staff, frequent consultation opportunities, and effective instructional methods. The integration of research into teaching, particularly at the master's level, further enhances the academic depth of the programmes. The presence of industry-experienced lecturers strengthens applied learning and career readiness. Taken together, these factors confirm that the academic team is well-positioned to deliver high-quality education and foster successful graduate outcomes.

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

FACTUAL SITUATION

5.2.1. Opportunities for academic mobility of teaching staff are ensured

Vilnius University encourages academic staff to improve their competences by participating in local and international, educational and research activities like conferences, seminars, training in research institutions, networking and other activities. The academic staff is motivated to participate in these mobility activities because the professional improvement of teaching staff is one important criterion for the upgrading of their academic position.

Various opportunities for staff mobility are provided. These opportunities are mainly offered by the Erasmus+ programme, Nordplius, ISEP and VU. These mobility activities include mainly funded participation in international conferences, seminars, staff exchanges for teaching and research projects implementation, and other networking collaborations. Additional opportunities for mobility are offered by funds of EU which are distributed by the Lithuanian Research Council, for Project-Based activities. The CAUs which runs the SPs support these research activities and visits needed for their implementation. These favorable conditions for staff mobility are very well described in the SER and discussed in the meetings with the staff during the visits.

The number of mobile teaching and research staff for the last 3 years is presented in SER. However, the information is unclear. It is estimated that the table is for the staff mobility of the faculty and not for the staff of the Electronics and Telecommunications under evaluation program. However, the statistics show a very low outgoing mobility, and it is shared mostly between professors and staff with doctoral degree. There is no specific analysis or sufficient information regarding the countries of exchanges, the durations of visits and the benefits for the field studies, resulting from the incoming and outcoming staff exchange programme.

From the statistics for teaching staff mobility provided in SER, it is noted that there is low participation for teaching purposes and high participation for research visits, mainly participation in conferences, locally and abroad. The participation of the two higher academic rang positions is much higher compared with the participation of the two lower rang positions in which the participation is very low.

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

Great importance has been given at VU for the educational, research and professional (practice) development of the academic staff. It is expected that academic staff competences development could effectively improve the quality of the study results of the students.

Since 2018 VU has define the pedagogical competences that teaching staff must possess and they are approved in the VU regulations. With reference to in the above regulations the assessment of pedagogical competences of the academic staff has been introduced in competitions to positions. As a result, the VU established a "Centre of Educational Competence of VU" which organise trainings and workshops in different fields of education, like "Integration of information communication technologies into teaching processes". A special training for new teaching staff is also organised. The cost of the trainings for teachers is covered by VU.

The research competences are developed by the systematic participation in research activities, writing and publishing articles in journals, participation in conferences and international collaboration in research networks. They improve also their research competences by participating in international societies, in membership in various committees and scientific research councils.

As regards professional competences, the VU encourages the staff to apply research knowledge in practice through participation in governmental and non-governmental projects and other social and cultural events. For example, be in public lectures and presentations, and participation in various telecasts of Lithuanian Radio and Television. Additionally, it encourages the staff to improve their knowledge of foreign languages and to give special courses to gifted pupils.

ANALYSIS AND CONCLUSION (regarding 5.2.)

Many good opportunities for the academic staff mobility are available in the university with funding from EU like Erasmus+ and COST programs, VU and other sources. The staff is motivated to participate in these mobility activities because VU has given great importance at the professional improvement of the academic staff. The statistics have shown that priority has been given to mobility for research purposes, like participation in conferences and much less for teaching/learning purposes like Erasmus+ teaching exchanges or internships for professional practice. However, no specific information has been given about the benefits on the field study programme. The staff mobility is mainly shared among the two high rang positions of the academic staff. The activities for improvement of educational, research and professional (practice) competences of the academic staff are analytically described, and they are sound. The academic staff is highly motivated by VU to participate in the offered trainings to improve their chances for promotion in their carrier. No suggestions for further training activities have been proposed by members of the academic staff.

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	
Second cycle				X	

RECOMMENDATIONS

For further improvement

1. Use the acquired knowledge and experience from the outgoing academic staff mobilities to improve, the content of the study field subjects and the university in general, like laboratory equipment, teaching methods etc.

2. Give equal priority to participation in mobility for research evens like conferences, and participation in staff teaching exchanges and internships (Erasmus+).

3. In the selection of staff for mobility visits try to have a balanced share (distribution) among all academic staff positions.

AREA 6: LEARNING FACILITIES AND RESOURCES

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

FACTUAL SITUATION

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

Detailed information is provided in the SER about the VU Scientific Communication and Information Center (SCIC) which is one of the libraries of university. In this important center which was visited by the evaluation panel there are 6085 different scientific books with 15000 copies. It is open 7 days a week, 24 hours every day. Electronics engineering students can access all books, periodical and database from all fields of science in all VU libraries. In SCIC there are 800 working stations out of which the 137 are computerised. There is also one computer with Braille writing equipment for vision impaired students. Other facilities also are installed for people with other kind of disabilities. The SCIC is an impressive place with a library of excellent quality which enables the students to follow their studies successfully.

Detailed information on the lecture rooms, teaching laboratories, auditoriums and research laboratories of the faculty is provided in SER. The evaluation panel visited all these places and found that they are in very good conditions and appropriate for the Electronics and Telecommunication Technology study program.

The means and equipment used for the study program and the research activities, including hardware and software, are adequate for the current number of students and suitable to achieve the LO even in cases of remote education like the COVID-19 pandemic period.

A great effort has been made to adapt the premises, facilities and equipment to the needs of people with disabilities. The adaptation is not completed yet due to the excessive cost required. However, actually it is at a very good situation.

The possibility for students to work from home using the facilities of the HEI is properly explained and the students are very satisfied. They have available all the required facilities needed. They have all the required facilities needed. Students reported that current academic resources are generally adequate, but they would appreciate updated laboratories for enhanced practical experience. They found electronic databases, simulation software, and digital learning environments to be program strengths, effectively supporting independent study.

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

The institution demonstrates an ongoing commitment to the planning, maintenance, and upgrading of physical, technological, and learning resources to support the *Electronics and Telecommunication Technologies* programmes. Investment in infrastructure is guided by strategic academic needs, research priorities, and input from teaching staff and social partners, ensuring that resources remain aligned with the evolving requirements of modern engineering education.

During the site visit, a number of laboratories and teaching spaces were observed to be well-equipped and functionally organised, supporting a variety of instructional and experimental activities. Several of the laboratories showcased current tools and systems used in teaching telecommunications, signal processing, and microcontroller programming. However, it was also noted that certain facilities - particularly those used for foundational electronics and physics experiments - appeared to be in need of immediate modernisation to fully reflect the pace of technological advancement and industry standards. While the spaces were adequate for instructional use, some equipment and environments showed signs of age and limited adaptability for more complex or interdisciplinary work.

Access to electronic databases, simulation software, and digital learning environments was regarded as a strength of the programme, with online and blended tools effectively supporting independent learning.

Staff and administrators indicated that resource development is part of an ongoing planning process. Institutional efforts are currently focused on strengthening industry collaboration and integrating emerging technologies such as semiconductor systems, energy harvesting, and quantum electronics into both teaching and research activities. Long-term partnerships with external stakeholders, including involvement in EU-funded projects and national innovation programmes, are expected to support future investments in infrastructure.

The institution maintains a continuous approach to resource planning and development. While key strengths are evident in digital infrastructure and select laboratories, some physical facilities would benefit from targeted investment to ensure full alignment with future-oriented teaching and research goals.

ANALYSIS AND CONCLUSION (regarding 6.1.)

The premises of the VU as regards lecture rooms, auditoriums, laboratory spaces and some libraries are visited, and they are very good for the proposed programme of studies, especially for the first cycle. As regards the research programme of the second cycle the visit panel estimates that the upgrading of certain equipment at the level of industry standards would be beneficial for the MSc students. The SCIC centre includes an impressive library, and the VU offers to students the possibility to work remotely having access to educational material like database, periodicals, e-books and others. The available facilities offered to students are clearly explained and they are appreciated by the students. The institution demonstrates an ongoing commitment to the planning, maintenance, and upgrading of physical, technological, and learning resources to support the *Electronics and Telecommunication Technologies* programmes.

As was mentioned, some labs (foundational electronics and physics experiments) need of immediate modernisation. The spaces were adequate for instructional use, but the equipment and environments showed signs of age and limited functionality. Also, students confirmed that updating of current lab resources would be welcomed, particularly in areas where hands-on experience is key to developing professional readiness.

AREA 6: CONCLUSIONS

AREA 6	Unsatisfactory - 1	Satisfactory - 2	Good - 3 Meets the requirements,	Very good - 4	Exceptional - 5

	Does not meet the requirements	Meets the requirements, but there are substantial shortcomings to be eliminated	but there are shortcomings to be eliminated	Very well nationally and internationally without any shortcomings	Exceptionally well nationally and internationally without any shortcomings
First cycle			X		
Second cycle			X		

RECOMMENDATIONS

To address shortcomings

1. Replace old equipment in labs related to fundamentals of electronics and physics allowing students work with devices presenting full modern functionality and compatibility to other tools.

2. Update teaching labs to fully reflect the pace of technological advancement and industry standards.

For further improvement

1. Continue the purchase of modern equipment for laboratories, including new hardware and software applications for educational and research purposes.

2. Use the spaces of SCIC for the organisation of scientific events or other related activities for the outreach people.

3. While the commitment to accessibility is commendable, secure additional funding to fully complete the adaptation of premises and facilities for people with disabilities.

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

FACTUAL SITUATION

7.1.1. Internal quality assurance system for the programmes is effective

The internal quality assurance system for the *Electronics and Telecommunication Technologies* programmes is comprehensive and structured to foster continuous enhancement in academic quality. It operates through well-established procedures aimed at monitoring educational delivery, learning achievements, and the relevance of the programme. The system is built on routine assessments carried out by academic leadership and supported by input from internal stakeholders such as students, faculty, and administrative staff.

Key components of the framework include systematic reviews of teaching practices, support for new lecturers through mentoring, and internal evaluations managed by academic supervisors. These ensure that teaching standards are maintained and that improvements are implemented in alignment with institutional policies.

Faculty members routinely use data on student performance, progression, and curriculum effectiveness to refine teaching approaches. Adjustments to course content, such as enhancements

in embedded systems and digital signal processing, are frequently guided by such analyses. Administrative personnel also highlighted the transparency and documentation that guide internal reviews, supporting consistent programme oversight.

Students have noted the accessibility and responsiveness of academic staff in addressing teaching-related issues. Although some new students initially faced difficulties adapting to labs and coursework, they observed that instructional methods were adjusted over time based on their feedback. The internal system thus promotes a dynamic learning environment, continuously refined through reflective practice and institutional monitoring.

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

Stakeholder engagement plays a central role in the internal quality assurance of the *Electronics and Telecommunication Technologies* programmes, with meaningful contributions from students, alumni, industry partners, and teaching staff. This inclusive process ensures that the curriculum evolves in line with both academic priorities and professional demands.

Students are actively engaged through structured channels such as surveys, module evaluations, and committee participation. Their feedback has led to measurable improvements in teaching style, assessment design, and the inclusion of more practical content. Participants during the site visit affirmed that their voices are considered seriously and that dialogue with faculty is constructive and solution-focused.

Academic staff reported that student and alumni insights influence course planning, including decisions to expand programming and enhance practical components like lab activities. This partnership reinforces the relevance of the curriculum and strengthens its alignment with learners' expectations.

External stakeholders, particularly industry representatives, are integrated through programme advisory boards, curriculum consultations, and collaboration on final-year projects. Their feedback has directly contributed to curricular revisions such as the incorporation of industry-standard simulation tools and more hands-on engineering tasks. These inputs ensure graduates are equipped with practical skills that meet evolving market needs.

Overall, the system fosters a culture of collaboration, where feedback is systematically gathered, valued, and used to inform programme evolution. The active participation of all stakeholder groups underlines the shared responsibility in maintaining quality and relevance in the academic offering.

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

The *Electronics and Telecommunication Technologies* programmes are supported by clear and transparent processes for collecting, utilising, and disseminating information related to their implementation, external evaluation, and ongoing improvement. The institution has mechanisms in place to ensure that data on study quality, graduate outcomes, and stakeholder feedback is systematically gathered and used to inform decision-making.

External evaluations, accreditation reports, and internal reviews are used as reference points in the ongoing development of the programmes. Academic leadership and teaching staff actively reflect on these outcomes and implement targeted changes. During the site visit, staff and students confirmed

that programme improvements, such as increased practical components and curriculum updates, were informed by both internal feedback and external recommendations.

Information about study programmes, intended learning outcomes, structure, admission requirements, and improvement efforts is published on the university's website and faculty portals. Students reported that the information provided before admission was clear, complete, and instrumental in their decision-making. Updates regarding curriculum revisions, new electives, and quality developments are communicated through formal channels and student platforms, supporting transparency and stakeholder awareness.

Graduate career data and student satisfaction results are also collected and, where relevant, used in internal quality reviews and shared with stakeholders. These practices allow the academic community and the wider public to understand the programme's performance and development priorities.

The visibility of programme information and quality processes supports accountability, informed participation, and trust among current and prospective students, academic staff, and external partners. The integration of feedback into clear improvement actions, followed by public communication of those outcomes, reflects an effective and transparent approach to programme governance.

7.1.4. Student feedback is collected and analysed

Vilnius University (VU) employs a comprehensive and multi-faceted system for collecting feedback on the quality of its studies, involving various stakeholders and aligning with the VU Strategic Plan. This systematic approach ensures that information is gathered from multiple perspectives to inform quality improvement initiatives.

VU conducts nine distinct student surveys to capture a broad range of feedback. These include regular surveys on the quality of individual course units and entire semesters, typically conducted by the Department for the Quality and Development of Studies. First-year students are surveyed by the SACO of the University Central Administration regarding their admission experience and expectations, while final-year students provide feedback on their study programs and conditions through the VU Department for the Quality and Development of Studies, with detailed results published on the VU intranet for staff access. Additionally, feedback is collected from students undertaking internships, both domestic and international, through internship reports or the Mobility Tools instrument. The core academic unit (CAU) manages domestic internship surveys, with results used internally, while the VU IRO manages surveys for incoming and outgoing exchange students, and the VU SACO oversees surveys for international internship completions, with some results published internally and others used for process improvement. Finally, the SACO conducts a crucial survey with students who terminate their studies, gathering insights into their reasons for leaving, with aggregated results accessible to all VU staff. Starting from the 2023-2024 academic year, a new standardized survey for internship placement quality is also being introduced.

Beyond current students, VU endeavours to gather feedback from graduates at 12-, 36-, and 60-months post-graduation to assess acquired competencies and labour market integration. While valuable, this particular survey faces challenges with low participation, prompting VU to explore solutions for increasing engagement. Despite this, the university administration and Study Programme Committees utilize available graduate data as valuable contextual information, complementing insights from other sources.

The collected survey results are disseminated to various stakeholders to drive continuous improvement. Lecturers utilize the data to enhance teaching content, quality, and assessment procedures. Study Programme Committees leverage the feedback to refine programs, prepare for external evaluations, and analyse proposed study programs. University and faculty administrations use the insights to improve overall unit and university operations. Furthermore, the Admission-Attestation Commission has, since 2019, incorporated representative student survey data to assess lecturers' pedagogical activities. This extensive feedback system, including anonymous options, allows students to express opinions and proposals, creating a student-friendly environment while ensuring well-founded decisions for quality assurance across the university.

ANALYSIS AND CONCLUSION (regarding 7.1.)

The internal quality assurance system for the Electronics and Telecommunication Technologies programmes at Vilnius University is robust and actively contributes to ongoing program enhancement. It is well-structured, employing clear procedures to monitor teaching effectiveness, learning outcomes, and industry relevance, with consistent feedback from students, faculty, alumni, and industry partners. This dynamic interaction fosters a responsive educational environment, leading to curriculum updates, increased practical components, and improved alignment with labour market demands. The visible responses to student concerns and structured mentoring for new faculty further enhance academic quality and student engagement.

While stakeholder involvement is a key strength, particularly through student surveys and industry partnerships influencing curriculum, there is an area for improvement. The challenges with low participation in graduate surveys (at 12-, 36-, and 60-months post-graduation) could be better, as this limits the representativeness and statistical generalizability of crucial long-term employability data. Addressing this through systematic solutions would further strengthen the program's ability to assess and demonstrate long-term graduate success. Overall, the transparency of program information and evaluation outcomes reinforces accountability and trust, showcasing an effective and collaborative approach to quality assurance.

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	
Second cycle				X	

COMMENDATIONS

1. Strong stakeholder involvement: active engagement of students, staff, alumni, and industry partners ensures a collaborative and responsive quality assurance process.

RECOMMENDATIONS

For further improvement

1. Enhance documentation of feedback impact: clearly show how stakeholder input leads to specific programme improvements.

2. Monitor curriculum updates: regularly assess the effectiveness of changes to ensure continued relevance to technological and industry developments.

3. Consider to introduce a procedures enhancing number of surveys provided by students, ensuring that the students' feedback is taken into account on university life organization.

V. SUMMARY

The review panel wishes to express its appreciation to Vilnius University and the Faculty of Physics for the preparation of a clear and comprehensive self-evaluation report, as well as for organising a well-structured and informative site visit. The panel acknowledges the openness and engagement of all participants, academic staff, students, administrative personnel, and social partners, which greatly contributed to the depth and quality of the review process.

The *Electronics and Telecommunication Technologies* study programmes demonstrate a strong alignment with the institutional mission and strategic priorities, offering students a robust academic experience grounded in scientific excellence. One of the most notable strengths of the programmes is the solid foundation in physics and mathematics, which equips graduates with high-level analytical and problem-solving skills. This foundation enables graduates to pursue a diverse range of careers in research, development, engineering, and applied technology sectors. Employers consistently value the adaptability, technical competence, and critical thinking demonstrated by programme graduates.

The teaching staff are highly qualified, combining academic, research, and professional expertise. Their active involvement in scientific research and international collaboration directly informs the teaching process and ensures the relevance of course content. Students benefit from an accessible and supportive learning environment, where staff are committed to continuous improvement and responsive to feedback. Teaching methods are varied and effective, incorporating lectures, practical sessions, project-based learning, and supervision of applied research, all of which contribute to the achievement of intended learning outcomes.

The internal quality assurance system functions effectively. Feedback from students, graduates, and employers is collected and used to inform decisions on curriculum development, teaching practices, and assessment strategies. Stakeholders are actively involved in quality assurance processes, and the institution demonstrates a clear commitment to maintaining and improving the quality and relevance of the programmes. Support structures, academic, financial, psychological, and personal, are well established and appreciated by students, contributing to a positive and inclusive study environment.

Information on the programmes, their structure, learning outcomes, and updates following evaluations is made publicly available and is communicated clearly to both prospective and current students. Programme content is regularly reviewed and revised to reflect industry trends and technological developments. Students are given opportunities to engage in research activities appropriate to their cycle of study, and final thesis projects often involve collaboration with external partners, providing valuable links between academic study and professional practice.

While the review panel found the programmes to be well managed and forward-looking, a few areas were identified where further development would enhance the student experience. Some of the laboratories, although functional, appeared in need of modernisation to reflect current technological standards. Upgrading selected facilities would ensure that students have access to state-of-the-art environments that mirror those used in industry. Additionally, while the mentoring system for first-year students is a positive initiative, it could benefit from more formal structure and expanded capacity to ensure consistent peer support across all cohorts. Finally, there is an opportunity to improve systematic tracking of graduate career paths, which would strengthen the evidence base for future programme development.

The review panel recognises the professionalism, dedication, and openness demonstrated by the university throughout this process. The programmes are academically strong, research-informed, and responsive to stakeholder needs. The institution has created a learning environment that fosters academic achievement, professional development, and personal growth. The panel is confident that the university will continue to build on these strengths in the ongoing development of the *Electronics and Telecommunication Technologies* programmes.

VI. EXAMPLES OF EXCELLENCE

Examples of excellence should include examples exhibiting exceptional characteristics that are, implicitly, not achievable by all.

If, according to the review panel, there are no such exceptional characteristics demonstrated by the HEI in this particular study field, this section should be skipped / left empty.