SKVC

STUDIJŲ KOKYBĖS VERTINIMO CENTRAS
CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

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SOFTWARE ENGINEERING FIELD OF STUDY

at Kauno kolegija

EXTERNAL EVALUATION REPORT

Expert panel:

1. Panel chair: FH-Prof. Mag. DI Dr. Friedrich Praus ………………………... (signature)
2. Academic member: Prof. (FH) Dr. Johannes Lüthi
3. Academic member: Asist. Prof. Roman Danel
4. Social partner representative: Vilma Narkevičienė
5. Student representative: Matas Zaloga

SKVC coordinator: Gabrielė Čėplaitė

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I. INTRODUCTION

1.1. OUTLINE OF THE EVALUATION PROCESS

The field of study evaluations in Lithuanian higher education institutions (HEIs) are based on the following:

- Procedure for the External Evaluation and Accreditation of Studies, Evaluation Areas and Indicators, approved by the Minister of Education, Science, and Sport;
- Methodology of External Evaluation of Study Fields approved by the Director of the Centre for Quality Assessment in Higher Education (SKVC);
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

The evaluation is intended to support HEIs in continuous enhancement of their study process and to inform the public about the quality of programmes within the field of study.

The object of the evaluation is all programmes within a specific field of study. A separate assessment is given for each study cycle.

The evaluation process consists of the following main steps: 1) Self-evaluation and production of a self-evaluation report (SER) prepared by an HEI; 2) A site visit by the review panel to the HEI; 3) The external evaluation report (EER) production by the review panel; 4) EER review by the HEI; 5) EER review by the Study Evaluation Committee; 6) Accreditation decision taken by SKVC; 7) Appeal procedure (if initiated by the HEI); 8) Follow-up activities, which include the production of a Progress Report on Recommendations Implementation by the HEI.

The main outcome of the evaluation process is the EER prepared by the review panel. The HEI is forwarded the draft EER for feedback on any factual mistakes. The draft report is then subject to approval by the external Study Evaluation Committee, operating under SKVC. Once approved, the EER serves as the basis for an accreditation decision. If an HEI disagrees with the outcome of the evaluation, it can file an appeal.On the basis of the approved EER, SKVC takes one of the following accreditation decisions:

- **Accreditation granted for 7 years** if all evaluation areas are evaluated as exceptional (5 points), very good (4 points), or good (3 points).
- **Accreditation granted for 3 years** if at least one evaluation area is evaluated as satisfactory (2 points).
- **Not accredited** if at least one evaluation area is evaluated as unsatisfactory (1 point).

If the field of study and cycle were **previously accredited for 3 years**, the re-evaluation of the field of study and cycle is initiated no earlier than after 2 years. After the re-evaluation of the field of study and cycle, SKVC takes one of the following decisions regarding the accreditation of the field of study and cycle:

- To be accredited for the remaining term until the next evaluation of the field of study and cycle, but no longer than 4 years, if all evaluation areas are evaluated as exceptional (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: FH-Prof. Mag. DI Dr. Friedrich Praus, Professor at Vienna University of Applied Sciences (FH Technikum Wien);
2. Academic member: Prof. (FH) Dr. Johannes Lüthi, Professor and former Head of the Academic Council at the Kufstein University of Applied Sciences (FH Kufstein);
3. Academic member: Asist. Prof. Roman Danel, Assistant Professor at Institute of Technology and Business in České Budějovice (VŠTE in České Budějovice), Assistant Professor at Technical University of Ostrava (VŠB);
4. Social partner representative: Vilma Narkevičienė, IT Function Owner, UAB Hyand Lithuania;
5. Student representative: Matas Zaloga, Third-year student of the first-cycle study programme "Computer Software Engineering" at Vilnius Gediminas Technical University, member of the Lithuanian Students' Union.

1.3. SITE VISIT

The site visit was organised on 26 February 2025 on-site.

Meetings with the following members of the staff and stakeholders took place during the site visit:

- Senior management and administrative staff of the faculty(ies);
- Team responsible for preparation of the SER;
- Teaching staff;
- Students;
- Alumni and social stakeholders including employers.

Some of the above meetings have been supported using a translational service.

1.4. BACKGROUND OF THE REVIEW

Overview of the HEI

Kauno Kolegija (KK), in the sequel also referred to as the Higher Education Institution (HEI) is a public state multidisciplinary higher education institution established in 2000. In 2005 it was accredited as a non-university higher education institution. In 2014 and 2022, it was accredited by international external evaluators. It is managed by the Director, who has three deputies. The collegial governing bodies include the Council and the Academic Council. Employees are represented by the KK Labour Council.

The HEI consists of 4 faculties (Technologies, Medicine, Arts and Education, Business) in Kaunas and a regional division in Tauragė. It has about 4,600 students, 800 employees, and 36,000 graduates and implements 49 study programmes in 34 study fields that award the Professional Bachelor degree.

Overview of the study field

The HEI offers 1 full-time programme in the study field of Software Engineering. The Software Systems programme awards a professional bachelor's degree and is carried out at the Faculty of Technologies, which implements in total 5 study fields (Software Engineering, Informatics Engineering, Electrical Engineering, Production and Manufacturing Engineering, and Food Technology).

The objectives and learning outcomes of the programme Software Systems align with the institution's strategic goal of delivering practical, innovation-driven higher education and providing studies and educational services that contribute to state and regional development. The programme content features two clusters of alternative courses focused on modern professional competencies: IoT Systems and Machine Learning Engineering.

Previous external evaluations

The Software Systems programme has been registered in 2019 and is accredited for 5 years until 2024. 7 recommendations have been given during the previous external evaluation.

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
- Examples of final theses
- Statistics on the number of complaints
- Number statistics on how often Trust email is used
- Regulation on the workload of teachers, training, research and development, distribution of administrative activities, self-improvement, academic mobility. This includes the following documents:
    - o Procedure for the development of competences of kaunas university of applied sciences staff
    - o A description of the procedures for the management of applied research, experimental development and artistic activities
    - o Official trips of KK description of procedure

- o Description of the procedure for organising the mobility of KK staff under international exchange programmes
- o Description of the procedure for planning and evaluating the performance of lecturers
- Survey of graduate students in July 2024
- Tracking the careers of graduates, whether they have enough knowledge after graduation (monitoring).

Additional sources of information used by the review panel:

The following additional sources of information have been used by the review panel:

- Lithuanian Progress Strategy "Lithuania 2030";
- Study "From Graduate's Desk to a Career in ICT Professions", conducted by Invest Lithuania and InfoBalt Lithuania
- Invest Lithuania https://investlithuania.com/

II. STUDY PROGRAMMES IN THE FIELD

First cycle/LTQF 6

Title of the study programme	**Software Systems**	
State code	6531BX041	
Type of study (college/university)	College	
Mode of study (full time/part time) and nominal duration (in years)	Full time, 3.5 years, Part time, 4.5 years	
Workload in ECTS	210	
Award (degree and/or professional qualification)	Professional Bachelor of Computing	
Language of instruction	Lithuanian	
Admission requirements	Secondary Education	
First registration date	13 06 2019	
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 Software 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	3
3.	Student admission and support	3
4.	Teaching and learning, student assessment, and graduate employment	3
5.	Teaching staff	4
6.	Learning facilities and resources	4
7.	Quality assurance and public information	3
	Total:	24

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[1]

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 Software Systems (hereinafter referred to as "SPSS") study programme in Software Engineering (hereinafter referred to as "SFSE") aligns with the needs of society and the labour market. It reflects global labour market trends and forecasts a growing demand for software professionals, especially with the rise of Artificial Intelligence (hereinafter referred to as "AI") and digital transformation.

The emergence of AI is leading to structural changes in the knowledge and skill set required by information and communication technology (hereinafter referred to as "ICT") specialists. According to a report by the World Economic Forum published in September 2023, 75% of survey respondents plan to implement AI in their organizations, while 62% aim to use text, image, and voice processing technologies.

The SPSS programme is designed to give students the skills and knowledge they need to meet the growing demands of both global and local job markets, especially in fields like software systems, AI and machine learning. The programme focuses on giving students a strong foundation in software development preparing them for real world challenges. Graduates leave the programme ready to design, develop and deploy complex software, including Internet of Things (hereinafter referred to as "IoT") systems and machine learning models. By focusing on AI integration, data engineering and software system analysis, the programme ensures that students are equipped to take on required industry roles keeping pace with what employers are looking for today and in the future.

Kaunas region focuses on Science, Technology, and Innovation, aiming to become a hub for high-value industries through partnerships between science and business. It seeks to develop the information society, infrastructure, and e-services, while modernizing the labour market, retaining talent and ensuring workforce supply meets demand. The HEI verified the recruiters' demand via www.cvonline.lt that include machine learning engineers, artificial intelligence specialists and machine learning researchers.

In the SER, the relevance and uniqueness of the learning outcomes of the SPSS programme are discussed in alignment with the needs of global and local labour markets. The programme aims to provide students with the necessary skills and knowledge to meet the growing demand for professionals in software systems, software engineering, AI and machine learning areas. This aligns with the predicted trends of increasing demand for ICT specialists as AI continues to transform industries and business practices.

The outcomes of the SPSS programme are closely connected to the shifting needs of the tech industry, which now requires professionals who can create and build complex systems. The SER highlights the importance of equipping students with both theoretical and practical skills to meet the evolving demands of the job market, particularly in AI, machine learning and IoT development. The

programme's curriculum is structured to ensure that graduates are prepared for emerging roles in these high demand areas.

The study "From Graduate's Desk to a Career in ICT Professions", conducted by Invest Lithuania and InfoBalt Lietuva, reveals that ICT and ICT related jobs in Lithuania have doubled compared to the national average representing 12% of the workforce. ICT professionals earn 2.2 times more than other professions while ICT related roles earn 1.4 times more. The growing demand for skilled specialists in both Kaunas region and Lithuania aligns with the need for qualifications that meet international industry standards, as outlined in Lithuania's Progress Strategy "Lithuania 2030."

The SER underscores the growing need for software systems specialists. This demonstrates the programme's alignment with the strategic goals of Lithuania's technology and innovation sectors, ensuring that it remains relevant and responsive to the evolving demands of the labour market.

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

The growing integration of IT in business processes has significantly increased the demand for professionals skilled in designing, developing, and deploying systems such as client-server, data engineering, AI, and IoT applications. Graduates of the SPSS and SFSE programs at HEI, earning a Professional Bachelor in Computing, are well-positioned for careers in sectors like programming, data processing, telecommunications and software support services. These industries face a global shortage of qualified professionals, creating strong career opportunities for HEI graduates in both local and international markets.

The Software Systems programme at the HEI aligns with the institution's goals of providing practical, innovation based education relevant to regional and national development. The programme, which includes courses in IoT Systems and Machine Learning Engineering has seen growing enrolment numbers. Looking at the data presented in the SER which provides the number of applications submitted and study agreements signed for the SPSS study programme at the HEI from 2021 to 2023, a positive trend can be observed in both interest and enrolment. Between 2021 and 2023, the number of full-time applications increased by 21,6% (from 351 to 427), while the number of students who signed full-time study agreements grew by approximately 19 % (from 51 to 63), indicating not only growing demand but also a higher level of commitment to the programme.

The mission of the Software Systems programme aligns with the HEI's goal of providing practical, innovation driven education focused on societal development. Its necessity is driven by: changing labour market needs for new skills in software systems design and application; EU higher education reforms, particularly the Bologna Declaration's emphasis on integrating science and studies; the evolving field of computer science, including AI, cloud computing, and mobile access; HEI's partnerships with universities that support science and education integration and collaboration with industry to continuously update the programme's goals, outcomes, and content.

ANALYSIS AND CONCLUSION (regarding 1.1.)

The HEI's strategic approach to aligning its study programs with labor market demands is highly effective, integrating research, industry collaboration and curriculum adaptation to ensure students gain skills directly relevant to both current and future job markets. This approach is particularly evident in the Software Systems study programme which responds to global and regional trends, with a specific focus on the emerging fields of AI and IoT.

The demand for professionals in AI and IoT is clearly reflected in global industry trends. The World Economic Forum's 2023 report highlights that 75% of companies plan to implement AI, with a particular emphasis on AI technologies such as text, image, and voice processing. The HEI has aligned its curriculum to these global trends by incorporating the latest research and industry developments in AI such as machine learning and IoT. This ensures that students are not only proficient in theoretical concepts but also gain practical experience through internships, industrial projects and real case practical studies.

By collaborating with international researchers and maintaining strong partnerships with industry leaders, the HEI ensures its programs remain ahead of market trends. In 2023, the HEI partnered with six European universities from France, Finland, Germany, Italy, Spain, and Albania to form the "UNINOVIS - Data for L.I.F.E" European University Alliance. The aim is to establish an international, interdisciplinary university with shared structures for governance, teaching, and research. This network allows academic staff to collaborate with international colleagues, share teaching experiences, visit partner institutions and expand research teams. Another example of strong collaboration amongst country universities include applied research in Computer Engineering and Computer Science that was conducted in collaboration with Kaunas University of Technology, Vytautas Magnus University, and Vilnius University. Notably, as indicated in SER, more than 40% of the volume of the courses in the field of Software Engineering are taught by researchers.

Additionally, offering double degree programmes with partner institutions introduces students to international standards and practices increasing their global competitiveness. This strategic integration of AI and IoT into the HEI's study programs is a direct response to the growing demand for these skills in the labor market, both in Lithuania and globally.

The emergence of AI is leading to significant shifts in the knowledge and skill sets required by IT professionals. The increasing demand for experts in AI and machine learning further emphasizes the importance of the HEI's focus on these fields. Based on the HEI's mission, vision, values and strategic goals, the rise of AI and the growing demand for experts in AI and machine learning fit with the HEI's focus on practical, innovation driven education and applied science. The SPSS programme is aligned with the HEI's mission to address the changing needs of society by preparing professionals who can design, develop and implement innovative software systems, including those utilizing new technologies like AI, cloud computing and mobile access. By integrating science and studies, the programme responds to current trends in the job market, especially in the tech industry and supports the HEI's goal of staying relevant and connected to both academic advancements and industry needs.

Research by Invest Lithuania and the National Association of ICT Sector InfoBalt Lietuva indicates that ICT related jobs in Lithuania have doubled compared to the national average with ICT professionals earning significantly higher salaries. This growing demand for skilled professionals underscores the importance of the HEI's collaboration with industry partners to ensure its curriculum remains relevant and up-to-date. Feedback from these industry partners is integral in adapting the learning outcomes to meet the evolving needs of employers, ensuring that students gain the specific skills that are most sought after in the job market.

One of the standout features of the HEI's approach is its emphasis on soft skills development, complementing the strong technical foundation provided by the institution. While technical proficiency is critical, employers increasingly seek professionals with strong communication, leadership teamwork and adaptability skills. The HEI addresses this need by integrating soft skills development into its curriculum, including new courses on leadership and entrepreneurship in the

2024 curriculum. This holistic approach ensures that graduates are not only technically proficient but are also well prepared for dynamic, collaborative, and fast changing work environments. By focusing on both hard and soft skills, the HEI is cultivating a new generation of professionals who are ready to meet the diverse challenges of the workforce.

Kaunas region's focus on becoming a hub for high value industries further supports the HEI's efforts. By fostering innovation and developing a highly skilled workforce, the region creates a demand for professionals with the expertise necessary to meet the challenges of the digital age. the HEI plays a pivotal role in this regional strategy by offering study programs that align with local and international labor market needs. The demand for machine learning engineers, AI specialists and IoT professionals in the region highlights the success of HEI's approach in preparing students for the growing demands of the ICT sector. These efforts are not only reflected in the Kaunas region but also resonate on a global scale as companies worldwide increasingly seek skilled professionals in these highly demanded areas.

The HEI's proactive approach to curriculum design, continuous collaboration with industry partners, and integration of global labor market trends ensure that its students are well equipped to meet the demands of the evolving job market. This is especially crucial given the increasing integration of IT in business processes, which has led to a significant rise in the need for professionals skilled in areas like AI, IoT, and data engineering. The Software Systems (SPSS) programme at the HEI, awarding a Professional Bachelor in Computing, aligns with these trends by incorporating modern professional competencies such as IoT Systems and Machine Learning Engineering.

The HEI's study programs are designed to meet both current and future demands by aligning with global industry needs. The growing demand for skilled professionals in fields like software development, telecommunications and data processing underscores the importance of the HEI's efforts to provide high-quality, industry relevant education. By preparing students with both technical expertise and essential soft skills, the HEI ensures that graduates are ready for successful careers in the ICT sector, both locally and internationally. The increasing enrollment in programs like SPSS highlights the effectiveness of the HEI's approach in addressing the labor market's needs and shaping the next generation of professionals who will drive innovation in the digital economy.

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 programme "Software Systems" is a first cycle / Level 6 programme. The total workload is 210 ECTS. 125 ECTS (minimum required is 120) are allocated to learning outcomes of the study field, 35% (required at least 33%) are credits for practice based learning, 30 ECTS (minimum required 30) are allocated to internships, 15 ECTS (minimum required 9) are credits for the final thesis, 47% of the total hours are contact hours, and more than 50% of the workload (required minimum is 30%) is allocated to independent student work.

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

The HEI states the mission of the Software Systems Programme is to conduct practical and innovation based higher education studies. Full time studies last 3 and half years.

Theoretical classes take 12 % of workload on average, practical classes and internships 35 % (the rest is made up of consultation and self-study). The level of the learning outcomes complies with European Qualification Framework. Learning outcomes are described in the document 'Description of Study Cycle'. The study plan of the Software Systems programme is consistent. The study plan reveals that there are five general collegiate subjects, 30 course subjects and three elective study subjects. The course 'IT Project Management' is also offered in English. A ten score criteria evaluation is used to evaluate a student's learning achievements.

The study programme places strong emphasis on practical training, semesters are completed by course projects.

1.2.3. Curriculum ensures consistent development of student competences

Students of Software Systems study 30 credits each semester with a maximum of 7 course units. The study programme includes general courses of collegiate studies of 15 credits (7.14 %), courses in the field of study of 125 credits (59.52 %) and deeper studies of the same field of study of 61 credits (29.05 %). Compulsory course units of the latter block (3rd year of study) take 39 credits and two groups of alternative courses (Machine Learning Engineering or Internet of Things Systems), one of which is compulsory (22 credits); and free elective courses (9 credits). Free elective courses may be in a field other than the main study programme. The final semester is assigned to the final internship and preparation of the final thesis. A strong emphasis is on students' practical training.

The study programme includes two professional internships. The Programming Internship is carried out in an enterprise or company under the supervision of a mentor. The Final Internship is also carried out in an enterprise or company under the supervision of a mentor and the guidance of the thesis supervisor.

The study programme was launched during the COVID pandemic, which initially limited internationalization. Currently, the usage of Erasmus is supported, information on how to use Erasmus is available on the website, and according to interviews with students going on Erasmus it is not administratively complicated.

Topics and supervisors of the theses mostly come from companies. Internationalization is ensured by guest professors (about 20) from abroad. At a meeting with the school management, the possibility of obtaining a double degree at an HEI in Finland and Belgium was presented.

There is also support for students to take part in internships and lectures provided by company representatives. This allows students to develop additional competencies (contact with technologies, communication ability, understanding backgrounds of real software developing, analytical skills).

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

Students may choose freely from elective courses. Until 2023, students were able to personalise their studies by choosing to study one of the three alternative groups of courses (Business Management Systems, Internet of Things (IoT) Systems, Data Engineering). From 2024/2025 two alternatives (Machine Learning Engineering and Internet of Things (IoT) Systems) can be chosen.

Finally, students may choose the topics of integrated projects and final thesis and their internship placement.

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

The studies are concluded with the preparation and successful defense of the final thesis according to the HEIs guidelines such as the procedure for preparing, defending and storing final thesis and organising final examinations; the methodological guidelines for preparing, defending and storing final theses; code of academic ethics; description of the system of plagiarism prevention.

The thesis is an applied research project that showcases the student's achievement of the learning outcomes upon completion of the programme.

According to the SER, to ensure that the final thesis is relevant to the field of study, topics are proposed by students, academic staff, social partners and clients, taking into account their relevance to the learning outcomes of the programme. The proposed topics are then reviewed and refined at the Department of Informatics and Media Technologies meeting and announced to the students at least 3 months prior to graduation. In fact, many topics for the final theses come from social partners.

To ensure the quality and systematic preparation of the thesis, the process follows schedules set by the department, with interim reviews conducted. Before the review, a thesis is checked using the Turnitin text-matching tool. At least 14 working days prior to the defense, the department organizes a review to assess whether the thesis meets all required criteria. Feedback is provided on any necessary corrections, and a recommendation is made regarding its readiness for defense. Necessary documents and resources, including guidelines, timetables, and plagiarism prevention tools, are available on the Moodle platform. The HEI's library and Scientific Communication Centre offer training on research methods, citation, and plagiarism prevention.

In 2023 and 2024 the theses covered areas such as data engineering, software development for business management systems, modern programming technologies, IoT software, and computer game development.

The thesis showcases the student's ability to conduct applied research focused on software systems and their application, as well as analyze and summarize empirical data. It must reflect the knowledge and skills gained during the studies, demonstrating the student's capacity to analyze real-world cases in software engineering, summarize findings, propose digitalization solutions, and develop and implement software projects.

For defense, an assessment committee of at least 5 members (3 external stakeholders) is formed.

Within the evaluation period, 1 contracted thesis was developed for a company and many theses focused on the digitization of real business processes, software design and programming and applying it in real-world environments.

In 2023, the first 20 graduates defended their theses with an average score of 8.25, while 33 graduates in 2024 achieved an average score of 8.12, with the highest scores being awarded to 20% and 18.2% of students, respectively.

The procedure of preparing the final theses has been adapted recently to better support students and enable them to finish the final thesis in time. In fact, teachers additionally support students in

keeping up with the time schedule. Consultations are offered on a weekly basis, with each teacher allocating approximately 22 hours per student throughout the entire final thesis process.

ANALYSIS AND CONCLUSION (regarding 1.2.)

The Software Systems study programme, as part of the Software Engineering field at the HEI, is a relatively new but well-structured study programme that reflects both national and European higher education standards. Developed in alignment with legal regulations, the programme ensures the training of software systems specialists meets the demands of the evolving digital landscape.

Designed with a clear focus on labour market relevance, the programme equips students with the necessary knowledge, skills and competencies to thrive in the IT sector, particularly in areas such as software development, AI and data engineering. The curriculum, teaching methods, and assessment processes are coherently integrated to support students in achieving the intended learning outcomes.

The programme also offers opportunities for curriculum personalization through elective courses, internship placements and individually selected thesis topics. Student assessment is based on clearly defined criteria, ensuring the reliability and objectivity of performance evaluations.

The active involvement of social partners in curriculum development, final thesis evaluation, and internship opportunities ensures that the programme remains closely tied to industry needs. The Software Systems study programme demonstrates a strong commitment to quality, innovation and relevance, preparing graduates for both local and international ICT job markets.

The principles of final thesis preparation, committee formation and defence are described well and are publicly available. The topics of the final theses prepared and defended during the assessment period demonstrate strong alignment with the field of study and the learning outcomes of the Software Systems programme. There is strong involvement of real-world topics in the theses, with many focusing on practical applications such as the digitization of business processes. The conformity of the content of the final theses to the field studies is evaluated well. Final theses comply with the requirements.

All recommendations from the previous evaluation of the Software Systems programme were addressed.

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	

COMMENDATIONS

1. The HEI offers a very well aligned process for the final theses. Due to the recently available additional teacher support, this process seems well-equipped to also address current and future challenges related to the integration of AI in education.

2. Practical business cases (e.g. digitization of real business processes, software design and programming) are solved for partners, with study programs continuously improved based on direct feedback, demonstrating close collaboration with social partners.

3. AI and IoT are obligatory subjects and were included into curriculum based on business and social partners needs.

4. The HEI is a SAP Alliance member, which is a strong practice, and the use of other data analysis tools such as Power BI is increasingly valuable in the market.

5. The HEI should continue prioritizing quality improvement through its collaboration with the EU University Alliance and key IT partners.Partnership with six European universities offers a valuable opportunity to share teaching experiences, enhance research and strengthen international cooperation, further improving academic quality.

RECOMMENDATIONS

For further improvement

1. Increase in contracted theses – topics proposed by social partners are rarely selected.

2. Company visits are infrequent and external social partners could engage more often to share internship opportunities.

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

Applied science and arts activities at the HEI encompass applied research, experimental development, artistic work, and their commercialisation, all aligned with the institution's strategic goals and mission. These activities emphasize practical applicability, interdisciplinarity, international relevance, and integration into studies, with clearly defined research directions, funding sources, evaluation criteria, and measurable outcomes.

According to the SER, research and development (R&D) related to the Software Systems programme is carried out in the fields of computer science and computer engineering under the thematic area "ICT for Business and Education". R&D is divided into the three research groups: (1) algorithm development and performance/management models in software and information systems; (2) ICT infrastructure, cloud computing, and IT service management efficiency; and (3) the reliability and security of cyber systems. Five key applied R&D directions have been: (1) development and application of algorithms for software systems; (2) application of performance and management models in software and information systems engineering; (3) ICT infrastructure and cloud computing solutions; (4) application of IT service management methodologies and efficiency research; and (5) research on the reliability and security of cyber systems.

The HEI tries to achieve its objectives through joint efforts in study programme development, non-formal education and training, applied R&D activities, shared events, infrastructure development, and other cooperative initiatives. The SER describes the following collaborations with external stakeholders: (1) The HEI signed an agreement with six other European universities to create an international and interdisciplinary European university. (2) Close cooperation has been going on with the current by e.g. participation of business representatives in the Study Field Committee, joint scientific events, exhibitions, various training courses and in-service seminars, open lectures, and providing internship and work placements for students. Research has also been carried out with the social partners (e.g. Kaunas University of Technology, Vytautas Magnus University). Contract R&D was carried out on behalf of companies.

From 2021-2024, 82 studies of varying scope and duration were carried out (including 65 with students). 17 academics in the study field of Software Engineering prepared 10 articles (3 in journals of high scientific value, 6 in international journals). Besides, contracted consultations, courses, and seminars were carried out.

The SER lists a plan for future R&D activities for around 12 publications, 30 reports, 21 contracted theses and 68 students' presentations in 2024 and 12 publications, 27 reports, 21 contracted theses and 68 students' presentations in 2025 including the required funding for e.g. purchase of instruments, costs of publishing scientific articles or the visits to conferences.

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

The content of courses in the field of Software Engineering is updated according to the results of the research carried out by academic staff. The content is updated supplementing the course description, methodological and study materials. The SER states two alternatives introduced: Machine Learning Engineering and Internet of Things Systems. Topics for final theses based on innovative technology of the artificial intelligence are suggested. These topics also come from companies that allow students to work with the latest IT technologies.

External experts take part in lessons. Social partners have interest in cooperation and receiving students for applied research during their internship and preparation of final theses. During the interviews it was recognised that joint research projects are not currently being addressed, but are planned for the future.

The links between science and study are influenced by the internationalization aspect of the curriculum. International guest professors (Japan, USA, India, Jordan) are involved in lectures.

Students are encouraged to take part in the research. Special subjects for learning scientific skills have been integrated into the curriculum. The Faculty of Technologies organizes an international scientific conference 'Innovative Technology, Entrepreneurship and Regional Development' every year.

The HEI is a member of several professional associations. The SER also mentions close cooperation with technological companies and associations (e.g. LINPRA - Lithuanian Association of Engineering and technology Industry or INFOBALT).

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

According to the SER, students get opportunities to participate in ongoing research projects, often collaborating with faculty members and industry partners. They are encouraged to attend and present their work at national and international conferences and seminars. Also, there is an internal student conference organized every year. Students contribute to scientific publications, including journal papers and conference proceedings. To be more specific, in 2023, 2.5% of the students prepared scientific articles and 7.9% of the students made presentations at (student´s) conferences. In 2024 the reported numbers were still small because the SER was authored in spring 2024. These activities help students gain practical research experience and contribute to their academic and professional development.

ANALYSIS AND CONCLUSION (regarding 2.1.)

The SER provides a detailed and transparent account of academic staff engagement in R&D activities, highlighting their active participation and contributions within the institutional framework. The provided information comprehensively covers all required elements for analysis. It includes the results of the last three years of annual and comparative evaluations of R&D and art activities, ensuring that institutional performance over time is assessed. It also details the direct links between the HEI's research and applied science activities and the study field, as well as their integration into the study process. Furthermore, the extent and quality of cooperation with external partners are addressed, highlighting stakeholder involvement in relevant scientific and artistic work. Finally, the inclusion of future plans and their financial viability ensures a forward-looking perspective, confirming that all necessary data for a thorough analysis is present. The visibility and dissemination of scientific work demonstrate that the academic staff have the necessary

qualifications in applied sciences, successfully incorporating up-to-date research findings and technological innovations into the curriculum.

According to the topics, partners as well as conferences listed in the SER, various good quality publications have been elaborated and many smaller projects with social partners have been carried out.

Based on the analysis of the SER as well as impressions gained from the site visit, there appears to be a noticeable absence of large-scale research projects involving national or international partners, suggesting a potential area for strategic development in expanding the scope and impact of collaborative research initiatives.

As mentioned in the SER and verified during the site visit, regarding the involvement of students in research activities, there seem to be opportunities, such as participating in research projects of faculty members, including (co-)authoring of papers for presentation at national and international (student) conferences. However, during the site visit it became apparent that the perception of students is that the chances to do so are not very frequently provided by lecturers, although they would be interested in getting the chance to get in touch with such research activities. On the other hand, a positive trend can be observed with respect to the number of articles and scientific presentations of or with students. As an update to the SER, an increasing number of student articles and conference presentations for 2024 was reported during the site visit.

No recommendations have been given in the previous evaluation of the Software Systems Programme.

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		

COMMENDATIONS

1. The positive trend in the number of students involved in preparing scientific articles and/or presentations shows that lecturers seem to be encouraging students in this direction. These activities should be further strengthened and supported (see also recommendations).

2. The HEI effectively supports internationalization, with some courses fully taught in English and a diverse group of students.

RECOMMENDATIONS

To address shortcomings

1. Students could still be more actively engaged in research activities, as some are unaware of the opportunities available at the HEI but are eager to learn more.

For further improvement

1. Participation in bigger, national or international applied research projects is recommended, eventually together with social partners.

2. The visibility of opportunities for students to engage in research activities might still be strengthened. Eventually, more opportunities to derive topics for final thesis from ongoing research projects can be found.

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

According to SER, the student selection and admission criteria for the Software Systems programme at the HEI demonstrate moderate adequacy and transparency, with notable strengths and clear areas for improvement. Admission to the first cycle studies is carried out through the national Lithuanian higher education admission system LAMA BPO. The specific admission criteria and process are outlined on the [HEI's website](#).

Detailed data is presented on the number of applications, signed study agreements, and competitive scores of students admitted to the Software Systems study programme (SPSS) between 2021 and 2023. It covers both full-time and part-time modes and highlights differences between state-funded and non-state-funded placements. This allows for tracking admission trends and assessing the academic readiness of enrolled students. For instance, in 2023, the total number of full-time applications was 427, an increase of 5.13% compared to 2021. The number of students who chose the programme as their first priority and signed study agreements increased by 19% over the same period. Part-time studies were discontinued in 2023 due to a high dropout rate among students, which had previously led to very low enrolment numbers—only 1 agreement was signed in both 2021 and 2022.

Competitive scores provide insight into student readiness. These scores are calculated nationally and take into account exam results, school grades, and additional achievements. The highest competitive score among students admitted to state-funded full-time placements in 2023 was 7.91, while in 2022 it was 7.9 and in 2021 it was 7.36. For non-state-funded full-time placements, the highest scores were lower: 5.7 in 2023, 5.6 in 2022, and 5.7 in 2021. Average scores also varied depending on the funding type. The average score for state-funded full-time students was 4.99 in 2023, 5.46 in 2022, and 4.93 in 2021. In contrast, the average score for non-state-funded full-time students was lower: 4.15 in 2023, 4.42 in 2022, and 4.44 in 2021. For part-time students, average scores remained relatively stable: 5.13 in 2022 and 5.14 in 2021. These differences indicate that admission to state-funded placements is more competitive and attracts students with stronger academic backgrounds.

The competitive score is a standardized national indicator that helps ensure transparency and fairness in the admission process. All calculations follow legally established methods and are publicly accessible, enabling applicants to understand how scores are derived and how to improve their chances of admission.

As seen in the statistics provided in the SER, the minimal admission scores for both: state funded and non-funded spots in the SPSS are low (all except non-state funded part-time in 2022 below 5 points) which indicates high accessibility for students.

Overall, the data shows that the SPSS programme continues to attract a growing number of applicants, particularly for full-time studies, and maintains a rigorous and transparent admissions system.

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

As noted in the SER, the recognition process is widely used and there are a number of students taking advantage of subject recognition procedures. Since 2021, HEI has had the authority to assess academic qualifications related to higher education from foreign countries and international organisations, a function previously handled by the Centre for Quality Assessment in Higher Education (SKVC). Between 2021 and 2023, the number of applications for recognition of foreign qualifications increased significantly—from 34 in 2021 to 110 in 2023. However, no such applications were submitted by students of the SFSE study programmes during this period.

The procedure also allows students of the SFSE to have their prior learning—formal, non-formal, or informal—credited. Recognition of formal learning follows KK's internal Procedure for crediting learning achievements, which permits crediting up to 75% of the total study volume, excluding final theses. From 2021 to 2024, 28 students submitted applications to have formal learning achievements credited: 23 from Lithuanian institutions and 2 from foreign institutions. Additionally, 5 students were internally credited based on previously completed courses at KK and transferred to a higher course level.

Data indicates that most of the credited students had previously studied at Lithuanian universities, such as Kaunas University of Technology, Mykolas Romeris University, and Vytautas Magnus University. The total number of credited achievements decreased each year, from 208 credits in 2021/2022 to just 93 credits in 2023/2024. This trend may suggest either a reduced intake of transfer students or a more selective crediting process.

Recognition of non-formal and informal learning at KK follows a separate procedure that involves validation by an Assessment Board. The process covers competencies gained through work, volunteering, community service, self-study, and participation in non-formal education. Credit can be awarded for up to 75% of the study programme. Despite the availability of this option, there have been no applications from SFSE students for recognition of non-formal or informal learning during the review period.

Courses completed during Erasmus+ mobility are automatically credited if they are pre-approved in the Erasmus+ study agreement. On the faculty level there is a designated Erasmus coordinator who is responsible for crediting the courses. However, there is no mention of how responsibilities are distributed between departments. Similarly, details regarding support services (such as an International Relations Office) and whether KK engages in automatic recognition for specific qualifications like the European Baccalaureate are not provided in the available information.

In summary, KK ensures a functional recognition framework that supports student mobility and flexibility through formal procedures. Nevertheless, there is missing information regarding student guidance, appeal procedures, the extent of automatic recognition for foreign qualifications and the costs as they couldn't be found in the SER.

ANALYSIS AND CONCLUSION (regarding 3.1.)

The student selection and admission procedure is largely transparent and academically focused but could align better non-academic criteria with programme goals. The recognition process is widely used and likely standardised with automatic recognition which indicates a solid functionality of the systems in the HEI. The data shows favorable and increasing student enrollment, indicating that motivated individuals are choosing to study at the HEI, however there is some aforementioned

information missing that prevents complete analysis regarding the reasons for the lack of student desire to recognise former formal and informal education.

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

According to the SER, academic mobility at the HEI is managed by the International Relations Unit (IRU) and the Faculty of Technologies coordinated through the International Activities Coordinator. This process involves planning student mobility flows, organizing candidate selections. The IRU also manages documentation, and hosts incoming international students. Students can participate in partial studies or internships via the Erasmus+, Nordplus, and various bilateral agreements. Information on these opportunities is readily available on KK's website and social platforms, supplemented by events like Erasmus+ Info Days.

To support incoming exchange students, the HEI has procedures in place for the admission process, preparation of study documentation, accommodation, and study or internship arrangements. Since 2010, the Erasmus+ Student Network at KK (ESN KK) has operated a mentoring programme to facilitate integration of incoming students.

In the past three academic years, no international students have enrolled for full-time studies in the SPSS within the SFSE. As a result, the share of full-time international students in the field and cycle is 0%.

To improve this, KK has initiated strategic changes: beginning in the 2024–2025 academic year, the SPSS programme will be offered in English, along with an increased number of English-taught courses for incoming students. These steps aim to attract more full-time students from abroad in the future.

During the 2021-2024 period, a total of 13 students from the SPSS within the SFSE engaged in international mobility for part-time studies and/or practice. In 2021, 2.33% of SPSS students participated in mobility for partial studies or internships. This percentage remained stable in 2022, with a slight increase to 2.37%, suggesting a consistent level of engagement despite the lingering impact of the COVID-19 pandemic. Notably, 2023 shows two figures for participation — 2.37% and 2.13% — which may reflect separate calculations for the spring and autumn semesters, though this requires clarification. Nonetheless, the data suggests a relatively steady, albeit modest, level of participation throughout these years.

A significant positive development occurred in 2024, with the outgoing mobility rate rising sharply to 6.44%. This notable increase may be attributed to the easing of post-pandemic restrictions, improved promotion of mobility programmes, and a growing institutional emphasis on international engagement. It also likely reflects enhanced student awareness and readiness to participate in international academic and professional experiences.

Students chose to undertake their part-time studies and practice placements at various partner institutions across Belgium, Cyprus, Denmark, Estonia, Latvia, Portugal, Turkey, and France. The faculty conducts biannual selections based on transparent criteria, ensuring fairness and offering additional support to socially disadvantaged students, informed by official regulations. From

autumn 2020, the HEI has provided extra funds to increase grants for Erasmus+/Nordplus participants. Additionally, there are clear procedures for recognizing courses and internships undertaken abroad. In recent years, the outgoing student percentages ranged from approximately 2.13% to 6.44% Incoming students engaged in partial studies during a period when physical mobility was restricted. There are also various initiatives and events with the purpose of enhancing the global student experience and facilitating international collaborations.

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

According to the SER, during Introductory Week, first-year students typically learn about financial services like social grants, loans, library resources, accommodation, sports, and psychological counseling. Academic support includes advising and access to course materials through the virtual learning environment.

In terms of personal support, the HEI also offers career services, with events like Career Days where students can connect with employers. Financial support includes incentive scholarships, one-time grants, and social grants for disadvantaged students. Psychological support, sports and cultural activities, and student housing are also provided. Based on student surveys, 96% of students find the support easily accessible and timely, with the library training, financial aid, faculty consultations, career services, and psychological support being particularly favorable aspects. KK has recently expanded its student support services, including creating a new Students' Support Coordinator role.

During the site visit, the support for students with disabilities was observed as limited since only a few students with disabilities were enrolled, further information could not be found.

Regarding the counseling and psychological support services, 2 psychologists are available for email-based assistance and live sessions as it was noted by the students. However, the faculty's responsiveness and the students' awareness of certain support and feedback mechanisms were mixed, with some faculty members being more receptive to adjustments, but students not always being informed about this process.

3.2.3. Higher education information and student counselling are sufficient

First-year students typically learn about the support services available on campus during the orientation days. There are student consultations and group tutoring which provides some information and counselling for students. They also have the opportunity to participate in a wide range of professional, organisational, cultural, scientific, and voluntary practical activities. Academic mobility such as Erasmus+ studies and internships, mentioned earlier, are also available.

During the site visit, it was mentioned that there are student leader meetings at the end of each semester to discuss the experience with the courses.

ANALYSIS AND CONCLUSION (regarding 3.2.)

During the site visit, support for students with disabilities appeared to be limited, partly due to the low number of enrolled students requiring such services and a lack of accessible information. While psychological support is available through 2 psychologists offering email and live sessions,

the effectiveness of overall student support is inconsistent. Faculty responsiveness to student needs varies, and there is a noticeable gap in student awareness regarding available support and feedback mechanisms. This conclusion is also supported by student leader meetings at the end of each semester to discuss the experience with the courses. This frequency is not enough to resolve student issues with specific courses during the semester.

In conclusion, the site visit highlighted areas where the student support could be improved. The HEI could increase student representation with more frequent meetings and feedback mechanisms.

No recommendations have been given in the previous evaluation of the Software Systems Programme.

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		

COMMENDATIONS

1. Large variety of student events, especially for first-year students.

2. Multiple psychologists and other support tools.

3. Student housing is provided.

RECOMMENDATIONS

To address shortcomings

1. Meetings with student leaders are too infrequent. Recommended frequency with student leaders should be 1 time per month during the semester.

2. Available student support and feedback mechanisms should be expanded and better communicated to students through multiple additional channels.

3. Additional methods to attract international students could be established to further increase incoming student percentage to at least 10%.

For further improvement

1. Prioritize admission criteria directly tied to academic/professional potential (e.g., coding competitions over military service).

2. Provide clearer guidance for students on how "any other subject" impacts Software Engineering readiness.

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

According to the SER, the implementation of studies at the HEI follows the established study procedure. Each year the study calendar is prepared, and the Vice-Dean for Studies at the Faculty of Technologies develops the corresponding academic schedule, which includes semester durations, examination periods, and holidays. This schedule is approved by the Dean and submitted to the Study Administration Unit. Timetables are then published on Moodle at least one week before the semester begins. In compliance with the guidelines, full-time students may have up to 8 academic contact hours per day. The full-time workload consists of ~34% contact work (theoretical and practical classes), ~52% self-study time and ~12% time for preparation of a professional bachelor thesis.

According to the SER, the main study methods include interactive lectures with practical examples, discussions, and group activities; hands-on practice in computer labs; laboratory and practical tasks; project development under academic guidance; and self-study through reports, presentations, and independent research.

Student assessment at the HEI follows established procedures regulating principles, organization, and ethics. Academic staff define evaluation methods, which the Study Field Committee approves. Assessments align with course learning outcomes and include tests, projects, practical assignments, and reports. A ten-score cumulative system ensures continuous engagement, with final scores combining interim assessments and exams, where exams or projects account for at least 50%. Scores are recorded in the Study Management System within specified timeframes.

In the Software Engineering study programme, self-study constitutes 52% (2,906 hours) of full-time studies, encompassing project development, task completion, exam preparation, and the professional bachelor thesis, which alone accounts for 369 hours (12.7% of self-study time). Internships, supervised by mentors, are a key part of Software Engineering studies at the HEI, regulated by a formal procedure and including 30 credits of practical training. Students can choose from recommended placements or find opportunities independently, including through Career Days events.

Graduates of the programme have the opportunity to pursue Master's studies in computer sciences at Lithuanian universities such as Vilnius TECH, Vytautas Magnus University, Kaunas University of Technology, and Vilnius University, in accordance with each institution's admission procedures. They may also opt to continue their studies at foreign higher education institutions.

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

According to SER, the HEI is committed to creating a democratic, secure, respectful, and helpful environment. As part of its Strategy 2025, the HEI has developed and is implementing an equal opportunities and diversity programme that includes measures to address the individual study needs of students. The HEI provides alternative assessment methods for students from socially

disadvantaged groups or with special needs, such as extending time, adjusting the physical environment by providing good lighting or accessibility, enlarging font sizes, and using specialized software and tools like JAWS 14 for Windows, Win Talker Voice 1.6, and the Bellman Audio Domino digital encrypted intercom FM system for students with hearing impairments. The HEI also surveys students with disabilities and plans to improve and upgrade the infrastructure to ensure accessibility and quality of studies.

The HEI fosters inclusivity by supporting socially vulnerable groups and students with special needs through personalized study adjustments, alternative assessment methods and specialized tools. Although there were no students with special needs in the SPSS programme during the assessment period, ongoing efforts to improve accessibility demonstrate a strong commitment to equal opportunities.

The HEI has a defined procedure on their website for personalizing the study process for students with disabilities and/or learning difficulties. Students can apply to the Students' Support Coordinator to have their individual needs accommodated, and the HEI makes efforts to meet these needs within its financial and resource constraints. During the assessment period, there were no students with special needs enrolled.

ANALYSIS AND CONCLUSION (regarding 4.1.)

The SER provides a comprehensive and well-structured overview of key elements contributing to the quality of the study process. Study forms and teaching/learning methods, along with performance assessment strategies, are clearly identified and designed to foster active student engagement, thus aligning with contemporary pedagogical approaches. The site visit revealed that there is a good mix of teaching and assessment methods. The Software Systems study programme at the HEI integrates practical internships, interactive lectures and project based learning to equip students with the necessary skills for successful careers. The curriculum combines theoretical knowledge with hands-on experience particularly through programming and final internships, where students gain valuable exposure to real world environments. These internships, along with the option for students to seek their own placements, bridge the gap between academic learning and professional application, significantly enhancing employability.

For full-time students their needs seem to be met, the part-time studies, however, had to be terminated in 2025 due to a very high number of first-year dropouts. Based on the feedback of students during the site visit, the HEI quickly reacts to problems related to teaching/learning or assessment methods in the Software Systems study programme.

The thorough description of students' individual work and its evaluation demonstrates a strong focus on learner autonomy, responsibility, and academic growth. According to the feedback from students gained during the site visit, however, subjects are unexpected and the workload during the semester is (unexpectedly) high, which might be one cause for high drop-outs also in the full-time studies.

Moreover, the clear outline of further study opportunities offers transparency and encourages graduates to pursue academic advancement, reinforcing the continuity and progression of learning beyond the first cycle.

The HEI's institutional commitment to students with disabilities is adequate and evident in adaptation of infrastructure and assessment practices, even in the absence of enrolled students with special needs during the evaluation period. Strategy 2025 prioritizes equal opportunities

through concrete measures: specialized software like JAWS 14 and FM hearing systems, adjustable physical environments, and alternative testing formats. These efforts reflect a forward-looking approach, ensuring readiness to accommodate diverse needs despite current enrollment gaps. By formalizing a process for students to request personalized adjustments via the Students' Support Coordinator, the institution balances flexibility with resource limitations, embedding inclusivity into its operational framework. Persistent infrastructure surveys and planned upgrades signal sustained dedication to accessibility.

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

According to the SER, monitoring of students' study progress is regulated by the HEI´s study procedure and the procedure for assessing learning achievements. The evaluation of learning outcomes at the HEI is guided by principles of transparency, fairness, and mutual respect. A variety of assessment methods are used to ensure comprehensive feedback, and students are clearly informed at the start of each course about its objectives, expected outcomes, and assessment criteria, which are aligned with the defined learning outcomes.

The assessment process is student-centered, allowing all students to access their results, feedback, and areas for improvement through the HEI's study management system. Additionally, students can provide feedback on course quality after final evaluations, which academic staff use to refine assessment methods and criteria, supporting continuous improvement in teaching and learning. Students who do not pass an exam or project defense are entitled to one free retake within five working days after the session ends. If a study debt remains, students are allowed up to two additional retakes, with relevant information communicated through the Department, VLE Moodle, and personal email.

The institution demonstrates a well-structured system for monitoring and enhancing student performance. Student achievement data is regularly reviewed at multiple levels, including the dean's office, department, and the study field committee. Progress is tracked through the study management system, with actions taken to reduce dropout rates based on this data. Feedback is systematically integrated into the learning process through platforms like VLE Moodle and Turnitin, ensuring students receive clear, constructive input on their work. Additionally, students working on final theses receive ongoing support and structured evaluations. This comprehensive approach fosters continuous improvement, motivates student engagement, and enhances learning outcomes.

4.2.2. Graduate employability and career are monitored

Graduate employability and career monitoring at the HEI is a critical aspect of ensuring students' preparedness for the job market.

Feedback from students, alumni, and employers is regularly collected through surveys to improve the program's quality. The HEI actively engages alumni and provides career development activities like Career Days to support students' career paths.

The HEI's monitoring of students' progress and feedback is comprehensive, with assessments following a clear, systematic process. The HEI follows a structured procedure for self-assessment and planning by ensuring continuous improvement in academic performance. The Department and Faculty are responsible for preparing self-assessment reports and action plans. A key focus of the quality assurance system is evaluating study programs, specifically in terms of the study field. Various quantitative and qualitative indicators are used to assess quality, including research productivity, labor market demand for graduates, student dropout rates, enrollment and graduation outcomes, thesis topics, student and staff mobility, faculty methodology, participation in international projects, stakeholder cooperation, and feedback from stakeholders (such as students, partners, and employers).

The self-assessment results highlight strengths and areas for improvement which are used to plan enhancements in the quality of studies for each academic year. The Department incorporates these improvement plans into its annual action plan for Software Engineering, ensuring that efforts to raise the quality of studies are continuously reviewed and updated. The process allows for ongoing feedback from various sources, helping the HEI focus on improving study programs, especially in response to the changing needs of both the academic community and the labor market.

Students receive continuous feedback on their performance through regular surveys, meetings and active involvement in academic decisions, during the study process and internships and mechanisms such as retakes and consultations ensure that they are supported in their academic journey. They assess the quality of courses and teaching, while graduates provide insights on their readiness for the labour market. Faculty and administration use this input to improve study content and organisation. Regular meetings with students, including group monitors and representatives, help address issues promptly. Feedback results are shared openly and used in annual self-assessment reports to enhance the quality of studies, ensuring that programmes remain aligned with student needs and labour market demands. This feedback system not only helps students improve academically but also supports students' future career planning.

The HEI evaluates the employability of graduates through both objective data (such as employment status and data from the Lithuanian Employment Service) and subjective data (such as graduate surveys). This helps assess the demand for the study programs and ensures they remain aligned with the job market's needs. In 2023, 90% of graduates from the Software Systems programme were employed. The active participation of graduates in the Alumni Club further strengthens the career support network.

The HEI effectively monitors and enhances graduate employability through a combination of academic preparation, practical experience and continuous feedback. By aligning study programs with industry demands and supporting students' career development, the institution ensures that its graduates are well-prepared for the workforce. The comprehensive approach to feedback, inclusivity, and employability tracking ensures that the HEI's programmes are responsive to both student needs and the evolving job market.

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

The HEI has published a Code of Academic Ethics, which is also referred to in the study agreement that the students have to sign. The code of academic ethics includes e.g. regulations for the principles of transparency of the study and research process, academic integrity, equality, non-discrimination, justice, and protection of intellectual property. Authors of Bachelor's Thesis have to sign a Declaration of Integrity and the plagiarism detection tool Turnitin is used to check

student's work, which is also available for the students via the Moodle E-Leaning platform. Seminars and workshops assist students to avoid unintended plagiarism. For example, the library staff annually organize seminars for students such as "Literature Analysis and citation of sources", or "I found, I write, I cite" guiding the students in the direction of correct ethical behaviour. Students are informed during the introduction week about those documents. A trusted Email has been installed where harassment of discrimination can be reported confidentially.

During the period of evaluation no cases of breaching the principles of academic integrity, tolerance, or non-discrimination were reported.

Current and upcoming AI tools in education are revolutionizing the learning experience by providing personalized learning pathways, automating administrative tasks, enhancing student engagement, and offering real-time feedback to both educators and students. They, however, need to be addressed in academic policies. The HEI already encourages teachers and students to ethically use such tools and discuss openly. Training sessions for teachers on plagiarism prevention and artificial intelligence are available.

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

As mentioned in the SER, the opportunities for reporting appeals and associated handling processes are described in the "Procedure for assessing learning achievements at KK". Appeals are filed to the Dean of the faculty and are subsequently examined by the Board of Appeals, which is formed by the Dean. Within 15 workdays an appeal is either rejected or satisfied (in different possible ways). No appeals have been reported during the period under assessment. There seems to be no separate process for reporting and processing general complaints (not related to learning assessment of learning achievements).

ANALYSIS AND CONCLUSION (regarding 4.2.)

A clear process of monitoring and providing feedback to students exists. As per SER, it seems to be effective for students who actually take part and graduate from the courses. A timely and accessible review mechanism is a key component of an effective academic support system and this was clearly evident during the on site visit. With approximately 65% of students passing a course on their first attempt, the institution's provision for students to request a review of failed assessments within five working days reflects a strong commitment to transparency, fairness and student-centered learning. This structured procedure not only supports students in constructively engaging with feedback but also promotes accountability among teaching staff, fostering a culture of continuous academic improvement and self-assessment.

Due to the monitoring and feedback measures the process and support for the final thesis has been adapted, which shows the system is effective. Graduate monitoring is clearly addressed in the SER documentation. It covers both the study process and post-graduation employment with structured procedures in place and evident responsiveness to feedback. These practices ensure that HEI's programs remain aligned with both academic goals and market demands.

The HEI has established a Code of Academic Ethics and procedures to deal with violations of that code of ethics. Students appear to be well-informed about these regulations: they are addressed during so-called orientation days and students have to sign the study agreement that also refers to the Code of Academic Ethics. Seminars and workshops are provided to assist students in academic writing. However, no workshops etc. regarding general issues of equality,

non-discriminations or other forms of issues regarding academic ethics seem to be provided. The trusted Email exists but (as it has turned out during the site visit) seems not to be well-known to students. Also the processes of filing an appeal or complaint are not clearly known to the students. Consequently, it is not surprising that during the evaluation period, no violations of academic ethics have been reported and no appeals have been filed. Although in principle it may be viewed as positive that there seems to be a communication and conflict management culture that allows most issues to be solved personally, e.g. in direct communication to the responsible lecturer, a higher degree of informedness about the alternative formal procedures, in cases where direct communication does not clarify an issue, would be valuable.

Care needs to be taken with current and future AI tools in order to correctly assess student achievement of learning outcomes. According to the site visit, the available plagiarism tools (Turnitin) do not seem to work well, the assessment needs to be adapted or changed. A shift to oral examinations, discussion and student defence may be necessary and the institution needs to support its teachers effectively.

No recommendations have been given in the previous evaluation of the Software Systems Programme.

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		

COMMENDATIONS

1. HEI demonstrates a high employment rate – 90%.

RECOMMENDATIONS

To address shortcomings

1. A separate *formal* process to report general complaints does not seem to exist yet. This would be a valuable contribution to the conflict culture of the HEI. If informal conflict resolution fails, it is important to have a formal option requesting a solution by a commission.

2. The instruments that have been established (Code of Academic Ethics, trusted email for reporting violations of e.g. non-discriminations, the opportunity to make an appeal, etc.) need to be made more visible to the students and the students should be encouraged to use them.

For further improvement

1. To try to reduce drop-outs, the workload of students should be monitored and a balanced distribution of assignments should be ensured, giving students sufficient time to prepare for each assignment.

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

According to the SER, 20 members of the academic staff work in the study programme of Software Systems, 17 of them teach in courses of Software Systems. All of them are employed for at least 3 years, 12 teachers are employed on at least 0.5 FTE. 8 teachers are associate professors (47 %). The current ratio between the number of teaching staff and the number of student enrollment is 11.88. In October 2023 there were 14.52 students per academic FTE.

The teaching staff is appropriate to the needs of the field, the teachers are qualified. The average teaching experience of the academics at the Software Systems study programme who taught courses in the last 3 academic years was 22.71 years. All 17 teachers have more than 3-year practical experience in the field of the course taught. There is a combination of the experience of senior academics with innovative young staff (average age of teaching staff is 53 years). Newly recruited staff go through competition and when successful, they get introductory training and a 40-hour adaptation programme is implemented. Acquire a minimum of pedagogical competencies in a range of 14 hours is required.

Academic positions have been filled by teachers with at least Master degree, at least 3-year practical experience in the study course and 3-year experience in teaching in the HEI. During the interview it was said associate professors have an obligation to take part at the conferences in areas of their professional focus. Teachers can use at least one foreign language (English, Russian, German, Polish) at least at level B2. Level C1 in English is recommended for academic staff who teach courses in English.

During the site visit, the following additional activities have been described: Dedicated R&D teams with associate professors and teachers exist, junior assistants who currently started with R&D have been hired. Researchers are supported for publications. Teachers bring R&D results to classes, 60 students applied to an R&D scholarship. In 2024 there was a big competition with 7 researchers involved. Working hours are reserved for doing R&D depending on the position.

There is no official limit for supervising theses, the usual number is 2 to 3 theses per teacher.

During the interview, it was said that there is a document that provides information on methods of funding research, publications, and cooperation with institutions.

Within the interview with academic staff, following information has been noted: the workload of teachers is managed on a yearly agreement. It is planned 2 months before the start of the academic year. The number of hours with students is determined. Groups are not too large, teachers get 4-5 hours for preparation for a 1 hour course, which seems sufficient.

Discussions with school representatives and teachers resulted in the division of teachers into lecturers (who teach) and researchers (who do research and publish). Lecturers provide instruction and do not have to do science.

Substitutability is addressed using video lessons. The replacement of teachers in the event of their sudden unavailability during the semester is not formally established.

Teachers' approach to students with disabilities is on an individual level, there is no general management.

During interviews with students and SER authors, it was confirmed that the school has a process in place to resolve student complaints regarding the way individual subjects are taught and is also prepared for situations where a student disagrees with the evaluation received.

ANALYSIS AND CONCLUSION (regarding 5.1.)

Based on information provided by the SER and during the interview, it is obvious that the academic staff is stable and professionally competent for teaching the assessed study program. The workload (amount of lessons per week, amount of theses led) of teachers is managed. Most teachers have experience through practical work (working in IT companies in senior positions). About 40 % of the volume of the courses are taught by researchers and 100 % of the academic staff have at least 3-year practical experience.

The HEIs addresses the funding of scientific activities and encourages staff to publish. If the HEI requires publications in the area of taught subjects and these publications are to be in valuable publication outputs (e.g. journals with IF), clear conditions must be set and specified from which sources of funding are possible. There is a document describing procedure to research funding.

An area where there is a space for improvement is student feedback on the course of teaching. This is an important tool for continuous improvement of the pedagogical process, which should be set up appropriately (not every student complaint is relevant, teachers must be given enough opportunity to comment on comments and then assess whether and how the comments will be implemented in teaching). There is also space for improving work with students with disabilities, where the HEI successfully addresses students with mobility problems, but less space is devoted to students with specific reading and writing disorders.

It is also recommended to have backup plans ready in case of sudden indisposition of teachers (how will continuity of teaching be ensured and, in the event of a longer-term absence, other activities, such as guaranteeing subjects, etc.).

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

Mobility of teachers is encouraged by the HEI and is participated actively by teachers. Mobility is managed by the International Relations Unit and the Coordinator of International Activities. The selection of the academic staff to participate in mobility is announced at least four times per year. Selection criteria are publicly available. During pandemic situation academics could participate in international exchange virtually.

During the assessment period (2021 to 2024) 20 teachers participated in academic mobility (50 % gave lessons, 55 % participated in training). In 2022 two teachers lectured at the International Combined Summer School 'Applied Cyber Security' and in 2023 at the BIP Intensive Programme 'Creating and Developing Cyber Security'.

During 2021-2024 eleven academics from abroad (USA, Belgium, Finland and Hungary) came to give lectures.

Two Double Degree Agreements have been established - XAMK (Finland) and Thoma More UAS (Belgium). Every year HEI organises International Weeks during which guests from foreign countries have the opportunity to give lectures.

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

According to the SER, didactic and scientific competences of the staff are regularly increased by seminars (e.g. 'Selecting an applied research strategy from idea to result' or 'Processing data obtaining by qualitative research methods'), conferences, courses and internships. Some academics are IT professionals working in senior positions. The didactic competence was developed through training (e.g. 'Plagiarism prevention and check', 'Dissemination of research results') by an average of 41 % of the academic staff.

In the SER is also mentioned the importance of teaching soft skills and several training of staff was supported (e.g. 'Developing creative thinking - strategies and methods'). Interviews with alumni have confirmed the increasing ability of students with soft skills (communication, presentation ability) compared with situations ten and more years ago.

During the COVID-19 there was increasing demand for distance learning. Teachers participated in training that enabled them to use new technologies in teaching.

Academic staff participated in the activities of various professional associations (INFOBALT, LieDM, LINPRA, EDINA) or expert working groups.

The HEI has a well-equipped library, with extensive collections of resources available to teachers, including subscription access to scientific databases.

ANALYSIS AND CONCLUSION (regarding 5.2.)

From the information obtained from the SER and subsequently during the interviews, it can be stated that support for the development of teachers' knowledge and competences is sufficient from the HEI.

Internationalization is also at a high level, as evidenced by double degree programs and a high number of academics' go for foreign mobility as well as the arrivals of foreign lecturers.

Due to the trend towards the internationalization of teaching, it is an important aspect to ensure and support the development of the language competences of lecturers.

All recommendations from the previous evaluation of the Software Systems programme were addressed.

AREA 5: CONCLUSIONS

AREA 5	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are	Good - 3 Meets the requirements, but there are	Very good - 4 Very well nationally and internationally	Exceptional - 5 Exceptionally well nationally and

		substantial shortcomings to be eliminated	shortcomings to be eliminated	without any shortcomings	internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. There is a document about the way how to process research funding

2. High amount of invited guest professors from abroad

3. Understanding the importance of teaching soft skills

4. Procedure for student's feedback and complaints concerning teachers

5. A lot of teacher have working experience in senior positions

6. Collaboration with foreign universities in Finland and Belgium (Double degree programmes).

7. Teachers are flexible based on students' needs and take the remote lectures upon request.

RECOMMENDATIONS

For further improvement

1. Establish procedure of substitutability in case of long-term or sudden absence of a teacher.

2. Greater connection between scientific research activities and teaching among academic staff (an effort to divide them into lecturers and researchers was noted here). Scientific results, documented by publications, are important for university teachers to guarantee their subjects. They confirm that the teacher actively absorbs the latest knowledge in a given subject.

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

According to the SER, all classrooms are equipped with internet and multimedia access as well as teleworking facilities. 4 classrooms are with computer equipment, and there is also a Computer Network Lab that includes Local Cisco Network Academy and a Cyber Security Lab. EU Structural Funds project is used for financing the upgrade of hardware software and laboratory equipment. Three computer classrooms were upgraded in 2023. For studies, software that fits the current standard is used (Office365, Windows 11 EDU, Microsoft Project, Visio, SQL Server, VirtualBox, Visual Studio, Matlab, SCADA, Xampp can be given as an example).

Relevant information for students with disabilities (visual, hearing or mobility) is provided at the HEI website. Flexible forms of assessing their learning achievements are applied (e.g. extended time of assessment). All buildings are equipped with lifts and doors are properly equipped for persons with reduced mobility. Also the HEI website is accessible for disabled people designed with compliance to the Quick Access Keyboard key.

The well funded library has a sufficient quantity (96 thousand of printed documents, 600 new per year) with possibility to find resources via Virtual Library Catalogue accessible via Internet. Both paper and digital, as well as extensive subscriptions and interlibrary links available to all students. Half a million of electronic resources are available from 20 databases (from that 12 international databases like Springer, EBSCO, Taylor and Francis, O'Reilly). The library currently places emphasis on expanding and accessing its electronic resources offering 304 thousand electronic resources in the subscription databases (from which 283 thousand are e-books). The library uses RFID technology to protect the collections. In addition, the library operates with a Virtual Library offering around 200 thousand selected open access resources.

The HEI concludes long-term agreements with social partners which enable students to carry out internships including access to training laboratories.

The library provides special devices and applications in self-study rooms for students with hearing and visual disabilities.

The interview and subsequent visit to the library revealed that teachers have the opportunity to influence the addition of new publications and resources to the library. The purchase of hardware for laboratories is preferred from research projects. The acquisition of new licenses is handled at the faculty management level.

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

Updates and upgrades of resources are planned annually. The department analyzes the needs for additional scientific literature, textbooks, etc.. These needs are submitted to the library. Other resources like e.g. computer equipment or software needs can be stated when planning a course.

The needs for such material are discussed and approved in a meeting at the Dean´s office. Integrated projects and applied science activities are also considered in the resource planning in order to promote interdisciplinarity. Annual student surveys as well as surveys with the academic staff are also used in order to plan resources to the needs of the academic community..

During the last three years, the yearly average spent for the purchase of electronic communications equipment and computer software licenses was in the range of 200,- to 360,- EUR per year and per student. The corresponding indicator for funds for the renewal of technological equipment was between 50,- and 115,- EUR per year per student. The library renewal funds indicator used to be between 8,- and 12m.- EUR per year per student.

ANALYSIS AND CONCLUSION (regarding 6.1.)

The facilities, laboratory equipment, soft- and hardware, literature, etc. appears to be adequate for an effective learning process. According to statements from students, faculty, and management, collected during the site visit, the planning and upgrading processes also seem to be working well, they appear to be flexible and based on the needs of the stakeholders. During the laboratory tour, the technology demonstrated corresponded to the equipment descriptions given in the SER.

No recommendations have been given in the previous evaluation of the Software Systems Programme.

AREA 6: CONCLUSIONS

AREA 6	Unsatisfactory - 1 Does not meet the requirements	Satisfactory - 2 Meets the requirements, but there are substantial shortcomings to be eliminated	Good - 3 Meets the requirements, but there are shortcomings to be eliminated	Very good - 4 Very well nationally and internationally without any shortcomings	Exceptional - 5 Exceptionally well nationally and internationally without any shortcomings
First cycle				X	

COMMENDATIONS

1. The planning and procurement process seems to be working well and is perceived as being flexible, also from the perspective of the students.

2. Well-equipped and accessible library.

3. Capacity and equipment of lecture rooms, computer labs and specialized laboratories

RECOMMENDATIONS

No further recommendations are given by the members of the review panel.

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 HEI's internal quality assurance system, outlined in the Quality Manual, is based on its strategy and European and national higher education policies. It defines responsibilities across KK divisions, involves stakeholders in programme improvement, and includes a dynamic organizational structure for managing studies and activities. It covers all levels of the implementation of studies.

The management of the study programmes is performed at institutional, faculty and department level according to internal guidelines. The proposals and needs of social partners, the academic staff, students and other stakeholders are evaluated and integrated respecting legal acts.

The Software Engineering Study Field Committee oversees the quality of Software Engineering studies by analyzing key indicators, gathering stakeholder feedback, and reviewing external evaluations. It develops improvement plans, recommends study enhancements, evaluates module descriptions, conducts internal assessments, and ensures continuous quality updates, meeting at least twice a year to adapt to labor market needs.

The Department of Informatics and Media Technologies oversees the implementation and monitoring of the Software Systems study programme. Led by a Head responsible for quality, staff development, international collaboration, and study relevance, the department operates under KK regulations and reports to the Dean of the Faculty of Technologies.

Amendments to study programs, including changes to title, duration, volume, or specializations, are approved by the KK Academic Council. Changes to study module descriptions are approved at the Department meeting, while learning outcomes, credits, and hours are reviewed and adjusted by the study field committee, with any updated plans submitted to the Head of the Study Development Unit for approval.

The internal quality assurance model at the HEI operates cyclically through measures like annual self-assessment and benchmarking, focusing on public accountability and community involvement. Academic staff plan and assess their activities yearly, submitting self-assessment reports, which are reviewed and approved by the Head of the Department and the Dean of the Faculty.

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

According to the SER, HEI ensures the quality of studies through continuous feedback from students and other stakeholders. Students periodically fill surveys to assess the areas of quality of teaching, study courses and the overall quality of studies. Graduates are also surveyed about their readiness for professional activities and integration into the labor market. The academic staff also assess the quality of studies, and employers evaluate the theoretical and practical readiness of the specialists. Meetings and discussions are organized to gather feedback and address any emerging issues.

The students participate in these surveys relatively actively. In the 2023-2024 year student survey regarding study quality, the student participation rate was 43.04% out of which 51.52 % of students reported satisfaction and 14.14% reported high satisfaction with their studies.

These results are used to improve the content and organization of the study program. The Faculty of Technologies also holds regular meetings with student representatives, such as group leaders, to receive information on issues and respond quickly. External stakeholders also provide feedback that is used to make changes to the study program. The feedback results are presented to stakeholders and the summarized findings are included in annual self-assessment reports and made available on the HEI website. HEI also holds meetings with various stakeholders to understand the needs of the labor market and the requirements for specialists in computer science.

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

Information on the programmes is available on the HEI´s website. The self-assessment of studies involves collecting (e.g. via surveys, document analyses, lecture observation), systematizing, and analyzing valid data, including mobility rates of academic staff and students, applied research outcomes, participation in events, and comparisons with similar programs at other institutions. The department periodically gathers data on academic staff qualifications, applied science activities, student outcomes, attrition reasons, enrollment and graduation results, final thesis topics, and graduate employability. Once a year reports are generated and action plans are drawn up.

7.1.4. Student feedback is collected and analysed

The HEI conducts biannual surveys to assess the quality of teaching and course content, utilizing the Study Management System since 2020. After completing a course, students can anonymously provide feedback, which is shared with academic staff and summarized for the Dean's Office and the Study Field Committee. The surveys typically have a 40-50% response rate. In the 2023-2024 year student survey regarding study quality, the student participation rate was 43.04%. Student leader meetings also occur in January and September to discuss the feedback regarding individual courses. Additionally, first-year students are surveyed annually about their study choices and adaptation, while senior students evaluate their overall satisfaction with the quality of their studies and facilities. The results are discussed in various meetings and are accessible on the HEI´s intranet and website, contributing to improvements in study organization and content.

Survey results from 2021 to 2023 show that students rate their study quality highly, averaging 4.3 out of 5 across 14 criteria, down from 4.5 in 2020-2021. The Software Systems programme ranks second among collegiate study programmes in Software Engineering. Overall, the quality management system for the Software Systems study programme is effective, with active stakeholder involvement ensuring continuous improvement and quality assurance.

ANALYSIS AND CONCLUSION (regarding 7.1.)

The internal quality assurance system is clearly described in the SER and - as evaluated during the site visit - implemented well at the HEI.

HEI involves stakeholders effectively in its internal quality assurance. Students contribute through scientific conferences, presentations and publications as mentioned both in the SER and during the on site visit. Regular surveys and student representation in faculty meetings that happen 2

times per year help shape the curriculum. However, meetings happen too infrequently and their frequency should be increased.

Employers take part in final thesis evaluations and align the programme with industry needs. The HEI ensures that final thesis topics are closely aligned with industry needs by sourcing them directly from partner companies, which guarantees both relevance and practical applicability. This approach was highlighted in the SER and confirmed during meetings with social partners, demonstrating the HEI's strong collaboration with industry and its commitment to preparing students for real-world challenges.

HEI actively fosters a student-centered environment by regularly collecting and responding to student feedback through surveys and initiatives like the "You said – we did" platform (https://www.kaunokolegija.lt/jus-pasakete-mes-padareme-rezultatyvus-dialogas-tarp-aukstosios-moky klos-ir-studentu/), helping students feel heard and involved in shaping their academic experience. To further strengthen transparency and student engagement, the HEI should enhance communication by sharing specific examples of implemented improvements on its website, rather than relying on general information. This would clearly demonstrate the impact of student feedback and encourage even greater participation.

The HEI actively engages a wide range of stakeholders in its internal quality assurance processes to ensure that study programs remain relevant, dynamic, and aligned with market needs. Students are encouraged to participate in scientific conferences, deliver presentations, and contribute to academic publications, fostering a culture of excellence. Strong collaborations with international institutions—such as the dual diploma program with a Finnish university (established in 2016) and a partnership with Thomas More University of Applied Sciences in Belgium—broaden academic opportunities and deepen engagement with alumni and industry professionals.

Employers and social partners significantly contribute to program development by acting as guest lecturers, participating in final thesis topic selection and evaluations, and offering internships to senior students. During meetings, stakeholders emphasized that reducing administrative burdens and focusing more on practical tasks would make short-term internships more feasible. Their feedback directly informs curriculum development, enhances teaching quality, and ensures the practical relevance of the program, as confirmed in the SER and during discussions with social partners.

All necessary data on the implementation of the study programme of Software Systems including e.g. their external evaluation and improvement processes is periodically collected, processed and made publicly available. The results of the assessment are used to improve the study programme and the organisation of the study process.

To address the recommendation to involve stakeholders in programme improvement, the HEI established the Software Engineering Study Field Committee in 2019, with six members representing industry. During its meetings, the Committee reviewed external evaluation outcomes and approved an action plan that included proposals for programme improvement, establishing systematic stakeholder communication, and sharing updates on industry innovations and required competencies.

All recommendations from the previous evaluation of the Software Systems study programme were addressed.

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		

COMMENDATIONS

1. The management system for the quality and implementation of the Software Systems study programme ensures high quality studies with a successful internal quality assurance system and active stakeholder involvement in continuous study improvement.

2. The HEI has made notable progress in improving the programme since its launch during COVID-19. The Software Systems programme is highly popular, ranking 1st in the Faculty of Technologies, 10th amongst institutions and 2nd in Software Engineering by "Reitingai" magazine. The HEI genuinely wants to improve the programme.

RECOMMENDATIONS

To address shortcomings

1. The student surveys typically have a 40-50% response rate which is rather low when not combined with other feedback mechanisms effectively. The surveys should not be made mandatory, but their impact on study quality needs to be further communicated for students to improve the student interest by displaying how student impact was considered when implementing changes within the HEI. Additional feedback collection mechanisms could mitigate this shortcoming. This approach will better align study programs with industry needs and encourage broader student involvement.

2. HEI should improve communication on how student feedback leads to changes by sharing specific examples of implemented improvements on the website, rather than just generic information. This would increase transparency and student engagement.

3. Student leader meetings in January and September are too infrequent. Either additional feedback mechanisms should be implemented or meetings should be monthly as a minimum so the important issues can be resolved during the semester.

4. Additional student feedback mechanisms related to auditoriums or student wellbeing could be implemented

For further improvement

1. Employers and social partners accept students in later years for internships and would consider short-term internships if there was less documentation and more focus on practical work.

V. SUMMARY

The Software Systems programme is the first study within the study field Software Engineering at the HEI.

The goal for this reaccreditation is to improve the programme with respect to level of science and study quality. The HEI is aware of its weaknesses and addresses them.

The Software Systems programme started in 2019 where the Covid pandemic influenced education heavily (e.g. no contact with social partners). Admission rate at first was very high, but dropped. The focus on further development lies in the scientific development and internationalisation efforts. Researchers have been hired and an international week is going to be organised. Social partners started to work as part time teachers.

The SER provided all relevant information and evidence. Only minor additional documents have been requested. The SER was hard to read due to formatting (e.g. plain text where tables could be used, several broken links, small font size).

The quality of the curriculum is adequate, the expectations are met and practical experience is given (reports from students as well as alumni and social partners). Adaptations to the programme based on feedback occur. Workload seems to be high.

R&D in the Software Engineering study field seems to be at the very start but it is in a clear focus. Bigger national and international projects with e.g. social partners have not been started, yet. Student involvement could be strengthened.

The quality process is effective, all required documents are available.

Facilities are of good quality, enough licences and e.g. books are available to the students. Lecturers often participate in international activities and there is a clear commitment of the HEI to internationalisation. Students, however, do not seem to be encouraged to participate in a sufficient way.

We thank the HEI for the warm welcome during the site visit. The HEI seems to be a very cooperative place with a very good culture.