

APPLICATION

Study field "Information Technology, Computer Hardware, Electronics, Telecommunications, Computer Management, and Computer Science" for assessment

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|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Study field | <i>Information Technology, Computer Hardware, Electronics, Telecommunications, Computer Management, and Computer Science</i> |
| Title of the higher education institution | <i>Biznesa augstskola Turība</i> |
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Self-evaluation report

Study field "Information Technology, Computer Hardware,
Electronics, Telecommunications, Computer Management,
and Computer Science"

Turība University

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I - Information on the Higher Education Institution/College

1.1. Basic information on the higher education institution/ college and its strategic development directions, including the following information:

Turiba University (TU) was founded in 1993 under the name "Turība" Ltd. Training Center. In 1998, the name was changed to the School of Business Administration Turība, Ltd. Since 2009 the name of the educational institution is Turiba University. 08.05.1997. accreditation certificate No.002 has been issued to the higher educational establishment "Turiba Teaching Center", which gives the right to implement accredited study programs and issue state-recognized diplomas for the acquisition of higher education. Educational establishment registration No.3343800213.

TU Vision: We are the creative core and driving force behind the future Latvian economy.

TU Mission: We steer forward business ideas in the world prospering ourselves and teaching others how to prosper.

TU Values: Freedom. Entrepreneurship. Competence.

Study directions:

Law Science (Accreditation Certificate No.2020/62):

1. First Level Professional Higher Education Study Program "Law".
2. Academic Bachelor Study Program "Law".
3. Professional Master's Degree Program in Law.
4. Doctoral study program "Law".

"Economics" (Accreditation Certificate No.209):

1. First level professional higher education program "Finance and Accounting".
2. First level professional higher education program "Marketing and Trade".
3. Professional Bachelor study program "Marketing and Sales Management".

"Information and Communication Sciences" (Accreditation Certificate No.2020/63):

1. Professional Bachelor study program "Public Relations".
2. Professional Bachelor study program "International Communication Management".
3. Professional Master's Degree Program in Public Relations.
4. Doctoral study program "Communication Management".

Management, Administration and Real Estate Management (Accreditation Certificate No 2020/61):

1. Professional Bachelor's study program "Business Management".
2. Professional Bachelor study program "International Financial Management" (licensed July 2, 2018).
3. Professional Bachelor Study Program "Business Logistics Management" (licensed June 21, 2018).
4. Professional Master's study program "Business Management".
5. Professional Master's study program "Business Psychology and Human Resource Management in Business" (licensed July 2, 2018).
6. Professional Master's study program "Public administration".
7. Doctoral study program "Business Management".
8. Doctoral study program "Management Science".

"Hotel and Restaurant Service, Tourism and Recreation Organization" (Accreditation Certificate No 102):

1. First Level Professional Higher Education Program "Hospitality Service".
2. Professional Bachelor Study Program "Tourism and Hospitality Management".

3. Professional Bachelor Study Program "Business and Recreation Management".
4. Professional Master's study program "Strategic Tourism Management".

"Internal Security and Civil Protection" (Accreditation Certificate No. 55):

1. First Level Professional Higher Education Program, Organization Security (41861).
2. Professional Bachelor's Degree Program in Organizational Security (42861).

"Information Technology, Computing, Electronics, telecommunications, Computer Control and Computer Science"

1. First Level Professional Higher Education Program "Computer Systems" (license Nr.04036-7, 2020/27-L 27.05.2020)
2. Professional Bachelor Study Program "Computer Systems". (licensed June 27, 2018);

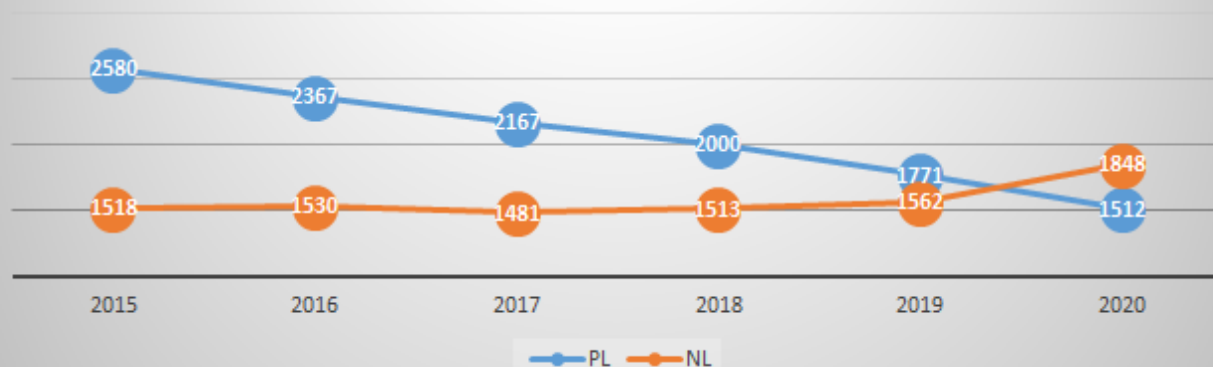
General information about TU branches:

1. Cesis Branch. Established in 2002 as Cesis Study Center. 5/29/2003 is registered in the Register of Educational Institutions as a branch of Turība University, Cesis branch.
2. Talsi Branch. Established in 2002 as Talsi Studies Center. 5/29/2003 registered in the Register of Educational Institutions as Talsi Branch of Turība University.
3. Liepāja Branch. Established in 2002 as Liepāja Study Center. 5/29/2003 registered in the Register of Educational Institutions as Liepāja branch of Turība University.

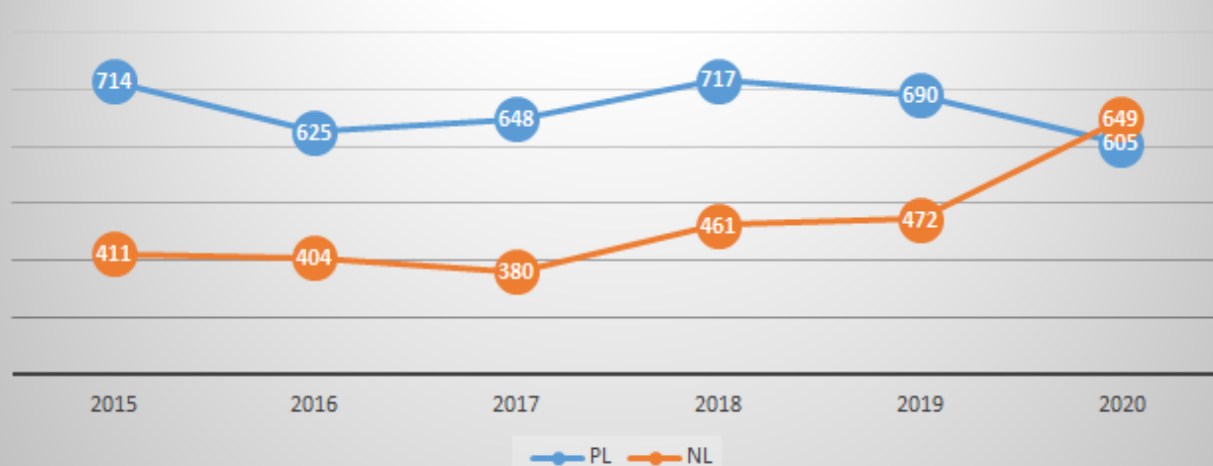
Dynamics of the number of students in the higher education institution during the evaluation period.

| Year | All students | | | Matriculated students in the 1th study year | | | Graduates | | |
|------|--------------|------|------|---------------------------------------------|------|------|-----------|------|-----|
| | Full | Part | Sum | Full | Part | Sum | Full | Part | Sum |
| 2015 | 2580 | 1518 | 4098 | 714 | 411 | 1125 | 418 | 156 | 574 |
| 2016 | 2367 | 1530 | 3897 | 625 | 404 | 1029 | 357 | 160 | 517 |
| 2017 | 2167 | 1481 | 3648 | 648 | 380 | 1028 | 417 | 152 | 569 |
| 2018 | 2000 | 1513 | 3513 | 717 | 461 | 1178 | 354 | 168 | 522 |
| 2019 | 1771 | 1562 | 3333 | 690 | 472 | 1162 | 337 | 153 | 490 |
| 2020 | 1512 | 1848 | 3360 | 605 | 649 | 1254 | 339 | 173 | 512 |

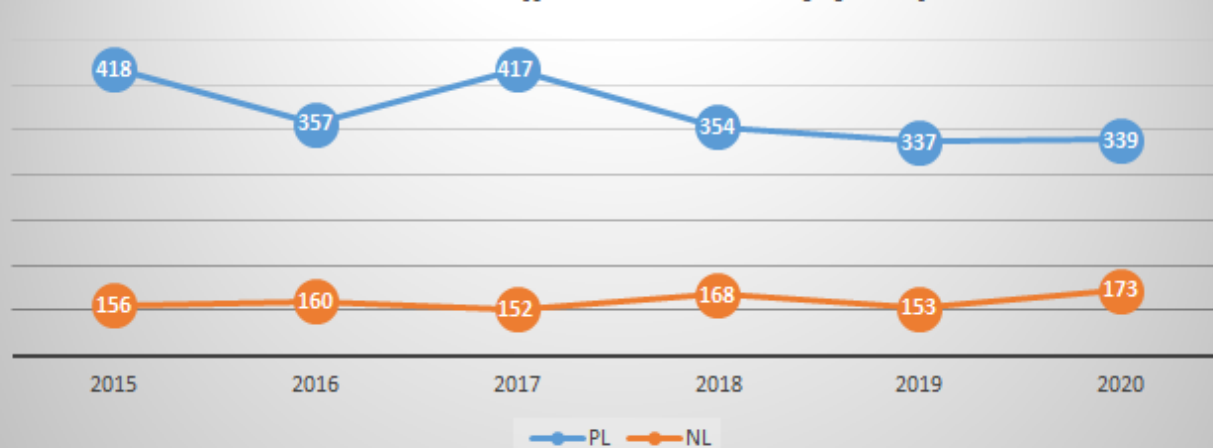
Number of students 2015.-2020. (on 01.10. in the 1st study year)



Matriculated students in the 1th study year (on 01.10.)



Graduates (previous study year)



Higher education institution development strategy - main development objectives and defined directions of activities.

According to Turība University Strategy for 2016-2020, the University has set 4 strategic objectives for itself:

Objective 1 Our study programs are the first choice for those who wish to study in Latvia in the directions we offer.

Objective 2 At the heart of our activity is a student, a comfortable study process, and a comfortable environment.

Objective 3 The academic staff is knowledgeable, experienced and engaged in practical research work.

Objective 4 Turība University is the most recognized brand in the Latvian business environment.

Priority tasks to achieve the strategic objectives:

- To improve the study content in accordance with current and trends in Latvia and the world.
- To use effective and attractive solutions in the organization and implementation of studies.
- Ensure that our performance allows us to maintain existing and obtain new accreditations in various international organizations and to promote visibility.
- Improve and modernize customer service processes to make them convenient, efficient and student-friendly.
- Promote multicultural tolerance and integration, facilitate the entry of foreigners.
- To improve and develop the campus, creating an attractive environment both for the study process and outside the study activities.
- To develop high-quality, interdisciplinary, and university-level academic staff.
- To promote research and publication in internationally quoted publications.
- Directing and supporting staff development in international programs, participation in projects, and experience development.
- To develop a common understanding of the culture, values and principles of the institution as an organization.
- Promote staff activities and publicity in business, scientific and community settings.
- Attract the best students, lecturers and professionals to develop products that are important for the economy.
- Communicate with clients and partners, dominate the public space.

Current TU Strategy (ENG):

<https://www.turiba.lv/en/university/about-us>

1.2. Description of the management of the higher education institution/ college, the main institutions involved in the decision-making process, their composition (percentage depending on the position, for instance, the academic staff, administrative staff members, students), and the powers of these institutions.

Founder / Board. Founder-created executive body for managing Turība University (TU) in strategic and financial matters. Proposes rector's candidature for election to the Constitutional Assembly and removal of the Rector, makes proposals to the Senate to convene an extraordinary Constitutional meeting, decides in cooperation with the Senate on academic and scientific issues, makes proposals to the Senate on the establishment, reorganization or liquidation of TU Draft Constitution or its amendments, etc.

Constituent Assembly. The highest body for the representation, management and decisionmaking of TU academic and scientific activities. Adopt and amend the TU Constitution, elect and dismiss the Rector in accordance with the Constitution, listen to the Rector's report, elect the Senate and the Academic Arbitration Court, approve the Senate and Academic Arbitration Regulations, elect the Chairman of the Constitutional Assembly, deputy chairman and secretary.

The Constitutional Assembly shall consist of twenty representatives (twelve representatives shall be elected from the academic staff, four representatives from the students and four representatives from the general staff).

Senate. The collegial management body and decision-making body of TU personnel, which approves the rules and regulations governing all areas of the University's activities. The Senate appoints professors, associate professors, leading researchers, researchers with whom to conclude employment contracts, approves study directions, programs and calendar schedules, decides on issues of academic and scientific activities of the higher education institution and departments, academic positions and their election procedure, approve the documents regulating the study process, decide on the establishment of the Council of Advisers, the composition of which is recommended by the TU Board, and approve the regulations of the activities of the Council of Advisers, etc.

The Senate is made up of 28 senators, 21 of whom are academic staff, 1 is from the TU Board and 6 are from the Student Council.

Advisory Convention. Advises the Senate and the Rector on the development strategy of the University.

Faculty councils. The Council evaluates and submits to the Senate proposals for the establishment, reorganization or liquidation of the structural units of the Faculty, examines the study field self-evaluation reports and reports on the actions taken to improve the study field. The Council evaluates and provides proposals to the Dean of the Faculty on the quality of study programs, student success and compliance of the study programs with the labor market requirements, basic directions of the academic activity of the Faculty, its development strategy and perspectives; faculty scientific research and international co-operation directions, new study programs and their director candidates, additions and enhancements of existing study programs, on closure of some existing programs.

The council comprises 30% of the academic and general staff, 50% of the industry professionals and 20% of the students.

The basic documents of TU activities are the *Statutes of the TU* (V1) and the *Constitution of the Turiba University* (V2). The TU organizational structure is defined in the *TU organizational chart* (D1) approved by the Board. The tasks and administration of each structural unit are specified in the structural regulations, but the duties of each employee are described in the job descriptions and job descriptions, in the work instructions.

The main TU long term planning document is the *strategy*, which is reviewed every 5 years. Currently, the Strategic Guidelines 2016-2020 approved by the TU Senate are relevant years (V46). TU *Ethics Policy* (V123) contains ethical principles and norms that are binding to TU employees in their attitude to work, in their interaction, and in their relations with governmental and non-governmental institutions and business partners. Issues relating to restrictions or violations of academic freedom and rights are dealt with by the TU Academic Arbitration Tribunal, which operates in accordance with the *Bylaws of the Academic Arbitration Court* (N12).

The *Study Regulations* (N1) are the basic document regulating the study procedure in the study programs implemented by TU. It describes the organization of the study process, examinations and assessment, internships and study papers, final examinations, as well as the rights and obligations of students and lecturers.

Examination regulations (N51) specify the types and forms of examinations, the rights and duties of students and lecturers. The composition of the state examination commission, the procedure for approving the supervisors and the composition of the commission, the rights and obligations of the supervisor, the procedure for submitting and reviewing the work and taking the examination, the student's rights, as well as the appeal procedure are specified in the *State examination regulations* (N86).

The practice, preparation, defense and evaluation of the practice report are carried out in

accordance with the *Practice Regulation* (N60), while the procedure for approving and evaluating the topic of study papers and supervisors and the obligations of students are set out in the *Regulations on Application and Defense* (N61).

The *Regulations on the Development and Design of Independent Research Papers* (N134) set out and approve the requirements for the preparation and design of papers. Requirements for passing regular examinations, assessment criteria, pedagogical methods, etc. are specified in the descriptions of study courses.

The *Academic Honesty and Plagiarism Regulations* (N157) set out the basic principles of academic integrity for TU administration, academic, scientific and general staff, and the procedure for identifying and preventing plagiarism in student, faculty, and research papers.

TU scheme (ENG) (These links are located on the BAT internal network and will be available to experts during their visit or may be made available to experts before the visit upon request):

http://inet.turiba.lv/dok_adreses/Dok/2008_gada_marta_sakot/Sekretariats/BAT_organizatoriskas_strukturas_shema_D1_39.vers_ENG.docx

1.3. Description of the mechanism for the implementation of the quality policy and the procedures for the assurance of the quality of higher education, as well as the stakeholders involved in the development and improvement of the quality assurance system and their role in these processes.

Turiba University (TU) is a Quality Policy (V66), defined and approved by the Senate, which aims to promote the implementation of the TU strategy and to ensure consistently high quality as defined in the quality policy. There are general guidelines for quality policy, but detailed quality assurance activities are described in TU internal regulatory documents that cover a wide range of documents (policies, regulations, procedures, etc.).

The quality policy is published both on TU employees' intranet page, on BATIS and on www.turiba.lv. The quality policy is implemented by all TU units and their employees both within the unit and individually.

The Quality Management Manual is a Senate-approved description of maintaining the BAT Quality Management System. Its purpose is to ensure that all TU employees have a common understanding of TU quality standards.

The Quality Management Manual, together with other TU internal regulations, is available to any TU employee on the TU Employee intranet page, as well as in paper form. The TU internal normative documents binding on students are published on the TU website and in the BATIS student information system in accordance with the Senate approved list of "Binding documents published on the Internet and in the BATIS student information system" (S45). Information on amended documents as well as changes in specific documents, BATIS students and Outlook Public Folders are regularly published. The TU quality management system is implemented in accordance with the requirements of Article 5 (21) of the Law on Higher Education Institutions of the Republic of Latvia, Standards and Guidelines for Quality Assurance in the European Higher Education Area (hereinafter - ESG) and ISO 9001 guidelines.

Basic principles of TU quality management system:

- customer orientation;
- leadership and staff engagement;

- process approach;
- continuous improvement;
- evidence-based decision making;
- customer relationship management.

The aim of TU quality management system is to increase the efficiency of TU and the satisfaction level of all stakeholders through continuous improvement.

TU defines the following quality management document structure:

- Strategic Planning Documents (TU Strategic Guidelines with Vision Mission, Goals, Goals and Indicators for Performance Control, SWOT Analysis, Study Area Development Plans);
- Policies (Quality Policy, Ethics Policy, Personnel Policy, Personal Data Processing and Protection Policy, Security Policy for Information and Communication Technology Systems, Energy Policy, etc.);
- Documents describing the process (regulations, rules, procedures, lists, diagrams);
- Planning documents (work plans of structural units, individual work plans of lecturers);
- Supporting documents (order, personnel, correspondence, document forms, references, deeds, minutes, reports, records, etc.).

Responsibility is defined in the Regulations of the Faculties and other regulations, regulations, bylaws, procedures and job descriptions of the structural units.

The Chairman of the Management Board is responsible for the quality management system on TU. The quality manager is responsible for designing, maintaining and improving the TU quality management system. The quality manager ensures the maintenance and improvement of the process management and measurement system performs the review of the efficiency and effectiveness of the TU quality management system by organizing internal audits, ensures the maintenance of TU normative documents, participates in the development and updating of TU organizational documentation.

It is the responsibility of the Rector and Vice-Rectors to ensure a unified pedagogical process at TU, the organization and management of the study process, the management of scientific methodological activities and the provision of study development and international cooperation.

The Dean of the Faculty is responsible for the compliance of the study programs implemented by the Faculty with the demand of the labor market, initiates the creation of new programs or the improvement of the programs to be implemented, organizes the , implementation and improvement and is responsible for the implementation of the quality management system in the faculty and for proposing improvements.

The Vice-Dean of the Faculty manages the implementation of the study process and its improvement in accordance with the TU vision, mission and strategic development plan is responsible for the comparative assessment of study process quality and student movement analysis, as well as methodological work in the Faculty.

Program directors are responsible for the design, implementation and development of a particular study program.

Heads of Departments are responsible for systematic improvement and modernization of the study process, participation in the collection of the library, organization of scientific research and methodological work, organization of experience exchange and qualification improvement of the lecturers, preparation of plans and reports, regular meetings of the Department on topical and prospective issues of study quality and scientific research, preparation, approval and publication of study course descriptions for the current academic year.

The TU branch managers, together with the department heads and program directors, are responsible for ensuring the quality of the programs being implemented in the branches and the appropriate control process. Heads of units are responsible for analyzing the results of surveys related to the operation of their unit, for planning and implementing corrective and preventive actions, and for ensuring the continuous improvement of the unit's work.

Each TU employee is responsible for maintaining the quality management system within TU's own

competence. It is the responsibility of each employee to inform management of any identified or suspected non-conformities and to propose suggestions for improvement. Internal audits of the TU quality management system (implemented in accordance with the Quality Management System Internal Audit Regulation (N105)) are conducted to verify that the activities and results of the TU departments are consistent with the planned activities and that these activities are appropriate for achieving the objectives. Various surveys (employees, students, employers, graduates) are conducted to obtain feedback (Survey Procedure (P17)).

A process and measurement system was used to improve process quality (Annex 2 to the Quality Management Manual).

Lecturers' qualification development is followed by TU professional competence training and departmental methodological seminars, which are dedicated to the exchange of experience, the introduction of new technologies and new teaching methods. Also used are the visits conducted in accordance with the Lesson Attendance Procedure (P30), as well as the results of the study course implementation survey, which are collected and analyzed at the end of each semester.

As quality assurance must comply with the standards and guidelines set by the European Association for Quality Assurance in the European Higher Education Area, the higher education institution recognizes in its study process that quality assurance is a guarantee of study outcomes and graduates' competitiveness in the labor market.

Eligible internal quality assurance measures are as follows:

- annual identification of weaknesses and strengths of study fields, changes, opportunities for development and internal self-evaluation;
- competent study direction management by the Faculty Council, heads of departments and study program directors, including student self-government;
- listening to students' opinions by advising students and collaborating on the development of a qualification paper;
- continuous evaluation of the study process, using various forms and methods of diagnostics, for example, conducting regular questionnaires (student survey), as well as analyzing the results obtained and discussing the students' thoughts with the lecturers (feedback);
- regular meetings of the academic staff at the Faculty Council meetings, where the contents of the courses and the possibilities for their improvement according to the development of the scientific fields are discussed, taking into account the latest scientific and technical achievements;
- involvement of students and graduates in scientific activities, promoting the development of qualitative papers based on the latest scientific achievements (student research results are published and reported at local and international conferences);
- invitation of students to the Faculty Council meetings, where problems concerning the quality assurance of the study courses and adjustments in the content of study programs are discussed.

The quality of studies is also ensured by the regular improvement of individual study courses, using the latest teaching aids and books prepared by the academic staff involved in the study fields. The most important performance evaluation criteria are student satisfaction level, employer references, graduate profile - competitiveness in the labor market (application of knowledge and skills in professional activities), accreditation - national and international, enrollment/graduation rates and financial indicators.

Quality Policy (ENG):

http://nodarbibas.turiba.lv/regdok_en.asp (In the section on Regulating documents - Higher Education)

Quality Management Guide (information in Latvian) (This link are located on the BAT internal network and will be available to experts during their visit or may be made available to experts before the visit upon request):

In addition, the document "Quality Policy" is attached in Annex.

1.4. Fill in the table on the compliance of the internal quality assurance system of the higher education institution/ college with the provisions of Section 5, Paragraph 21 of the Law on Institutions of Higher Education by providing a justification for the given statement. In addition, it is also possible to refer to the respective chapter of the Self-Assessment Report, where the provided information serves as evidence for the full compliance, partial compliance or non-compliance.

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|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | The higher education institution/ college has established a policy and procedures for assuring the quality of higher education. | Complies |
| | | Quality policy. Quality management manual. Faculty Regulations. Hospitality procedure. Survey procedure. Article 1.3 of the Report. |
| 2. | A mechanism for the creation and internal approval of the study programmes of the higher education institution/ college, as well as the supervision of their performance and periodic inspection thereof has been developed. | Complies |
| | | Regulations for the Development, Approval and Change of Study Programs. Process measurement system included in the Quality Management System Manual. Appendix to paragraph 1.2. report. |
| 3. | The criteria, conditions, and procedures for the evaluation of students' results, which enable reassurance of the achievement of the intended learning outcomes, have been developed and made public. | Complies |
| | | Study regulations. Examination regulations. State examination regulations. Study course descriptions. Appendix to paragraph 1.2. report. |
| 4. | Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed. | Complies |
| | | Hospitality procedure. Survey procedure. Process measurement system included in the Quality Management System Manual. |

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| 5. | The higher education institution/ college ensures the collection and analysis of the information on the study achievements of the students, employment of the graduates, satisfaction of the students with the study programme, efficiency of the work of the academic staff, the study funds available, and the disbursements thereof, as well as the key performance indicators of the higher education institution/ college. | <p>Complies</p> <p>Process measurement system included in the Quality Management System Manual. Survey procedure, questionnaire.</p> |
| 6. | The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study direction whilst implementing their quality assurance systems. | <p>Complies</p> <p>The improvement of the study direction is ensured by the constant cooperation with Latvian and foreign companies and organizations, which ensure the achievement of the study goals. New study programs and their actualization are developed in cooperation with representatives of industry companies. The directions of scientific research correspond to the strategy of the institution of higher education, study directions and corresponding study programs, they correspond to the actualities of the branch and the needs of the labor market. Report p.5,6.</p> |

II - Description of the Study Direction (1. Management of the Study Direction)

1.1. Economic and/or social grounds for the creation of the study direction and the relevant study programmes, the assessment of the interrelation among the study programmes, as well as the analysis of the significance (singularity) of the study programmes in comparison with other similar study programmes in Latvia and abroad.

The study discipline "Information technology, computer technology, electronics, telecommunications, computer management and computer science" comprises 2 study programs, the content of which is based on consultations with professional organizations of the field and has been developed over time according to the recommendations of lecturers, students, and employers, as well as following similar study programs in foreign universities:

1. First level professional higher education programme „Computer Systems” (41484);
2. Professional bachelor study programme "Computer Systems" (42484).

The first level professional higher education study programs "Computer Systems" professional

bachelor study program “Computer Systems” are study programs that have been implemented from 2020 and 2019.

The information and communication technology (ICT) sector is showing extremely rapid growth and great potential. According to EU evaluation (*High-Tech Leadership Skills for Europe. Towards an Agenda for 2020 and Beyond, March, 2017*) till 2020 the ICT sector in the EU will have a shortage of workforce. As reported in the evaluation, up to 500,000 jobs. The European Commission has recognized this, at least at the political level, as a political problem. The boundaries of ICT are becoming increasingly blurred. ICT professional skills such as algorithmic thinking, data analysis and programming are now useful not only for ICT companies, but in practically all sectors of the economy, and in Latvia as well.

Since 2008, employment in the ICT services sector in Latvia has increased by 84%. In 2016, out of the 25.2 thousand people employed in the ICT services sector, the majority were in programming, consulting and related activities, but the number of ICT professionals working in the economy as a whole had reached 19.7 thousand.

Although the ICT sector is really promising, its potential is yet to be fully exploited in Latvia. ICT companies could employ even more professionals, and for several years now have been pointing to tensions in the labour market and difficulties in finding new employees. As there are about 670 graduates in Latvia every year, there is a very noticeable shortage of ICT specialists. The study conducted by DomnīcasCertus predicts that in order to ensure the development of the industry and meet the demand of other industries for ICT specialists, the total number of graduates in the field of information technology (hereinafter - IT) in Latvia should at least be up to 3,000 per year.

As can be seen from the Education Development Guidelines 2014 - for 2020 and the related Latvia's development planning documents, one of the priorities is defined as the increase of export capacity and international competitiveness, which would result in the strengthening of Latvia's economy and innovative activity.

Latvia's Sustainable Development Strategy until 2030 ("Latvia 2030") as the hierarchically highest long-term national level plan sets a paradigm shift in education, focusing on an education system that allows responding to competition and demographic challenges and is a precondition for changing the economic model. In its turn, the National Development Plan (“NDP 2020”) as the hierarchically highest medium-term national level development planning document sets out the medium-term priorities, incl. also in the field of education and science, emphasizing the directions of action: development of competencies and development of research, innovation and higher education. Access to higher education, export capacity and competitiveness have also been identified as key challenges.

Latvia's National Reform Program for the Implementation of the EU 2020 Strategy (approved by the minutes of the Cabinet of Ministers meeting of 26 April 2011) includes measures for modernization of education, development of research potential and equal access to higher education in order to ensure achievement of the Europe 2020 strategy goals. Complementing this, for example, the Latvian Information and Communication Technology Association (LIKTA) states in its charter that goal oriented work in ICT development is the fastest way to the well-being of citizens and the state and a competitive market, aiming to develop and streamline the ICT environment in Latvia.

In order to ensure an internationally recognized education system in Latvia and competitiveness of the market at the international level, it is necessary to increase the number of excellent (exportable) study programs in the EU languages (Education Development Guidelines 2014 - 2020). Conclusion - without creating new export and competitiveness oriented study programs in Latvia, incl. those in the fields of STEM (*Science, Technology, Engineering and Mathematics* – not only will

the hierarchical plans at the national level not be fulfilled, but also a drop in education exports and tuition fees paying foreign students opting for studying in other EU countries can be expected. Considering the above conditions, using its resources, researching the labour market and cooperation opportunities with ICT companies and other partners, Turība University decided to open study programs in the study direction "Information Technologies, Computers, Electronics, Telecommunications, Computer Management and Computer Science". The full-time professional bachelor study program "Computer Systems" is being implemented at Turība University from the academic year 2019/2020 and the full-time 1st level professional study program "Computer Systems" since the academic year 2020 /2021.

The study program is based on industry trends, as gathered from the opinions of leading IT companies and the demand for programmers observed in the labour market. As already mentioned, this information is obtained from cooperation partners who are IT companies and determine the industry trends. Accenture Latvia's continuous BootCamp (<https://bootcamp.accenture.lv>) activities, which are organised at least 3 times a year for Java / Software engineering, which are always full with at least 25 participants can be mentioned as an example. After such activities, the majority are offered paid internships and students have the opportunity to earn some money. Another indicator is the www.CV.lv portal, which is the No.1 job advertising portal in the territory of Latvia. Researching the portal, one can observe a growing trend for programmers in the field of IT with an average of ~ 400 vacancies. In comparison vacancies in the field of "Finance / Accounting" and "Banking / Insurance" are around two times less. Researching deeper in the relevant industry, it could be seen from the breakdown of jobs in the IT sector that there are around 60 vacancies for Java programmers. Summarizing the data, we can say that ~ 15% of all IT vacancies require knowledge of the Java programming language. It should also be noted that other programming languages such as "C #" and "Python" are provided for in the study program "Computer Systems". It can also be seen from search results in the portal that there are around 100 vacancies for work in ".NET", which is a platform that provides "C #" programming language. The vacancies in the above mentioned "Python" programming language - 30 vacancies. So, altogether ~ 190 vacancies (60 + 100 + 30) out of a total ~ 400 vacancies makes up ~ 47.5% of all vacancies in the IT sphere. Based on these data, it can be stated that the study program "Computer Systems" is relevant in accordance with current industry trends.

A detailed description of these programs and their analysis will be provided in the self-evaluation section of each program, including references to the uniqueness of these programs compared to other similar programs in Latvia and abroad.

1.2. Aims of the study direction and their compliance with the scope of activities of the higher education institution/ college, the strategic development directions, as well as the needs and the development trends of the society and the national economy.

Study programme objectives:

To educate and train professional specialists for commencing independent work in the field of informatics by providing first-level professional and professional bachelor's education in the study direction "Information technologies, computer engineering, electronics, telecommunications, computer management and computer science", to educate qualified programming specialists for practical work with computer software development and software based to the professional standards of a programmer and programming engineer. To develop students as professionals in

their field, thereby promoting their competitiveness in the Latvian and foreign labour market. To educate students for further qualification and continuation of studies in professional Bachelor and Master level study programmes.

The development of the study direction is closely related to the Strategic Guidelines for Turība University 2021-2025*, [public version](#). The goals and tasks set in the Turība strategy promote the development of the study direction as a whole and the study programs included therein as well.

<https://www.turiba.lv/storage/files/bat-strategija-17-11-2020-eng-web.pdf>

To ensure the development and sustainability of the study direction "Information technologies, computer engineering, electronics, telecommunications, computer management and computer science", the aims and tasks of the study programs have been aligned with the Latvian Sustainable Development Strategy (Latvia 2030)[1], and the actions described therein

The following directions of Latvia 2030 strategy are used in the development plan for the study direction and implementation of programmes:

- It is the quality of education that is very important for specification of life and work opportunities of a person in Latvia. (..) If inequality in the field of education continues its increase, the shrinking human capital of Latvia will not be fully used (paragraph 116 of the strategy).
- (..) systematic co-operation of general and vocational educational institutions with institutions of higher education becomes important both in creating the content of the studies and in promoting the improvement of the competence of teachers. (140).
- (..) Human capital in European countries mainly occurs and develops in employment process, upon individuals improving their knowledge in the system of lifelong education and at work place, training of adults and more active involvement of formal education institutions and employers in provision of informal education offer is an important task also for Latvia(147)
- (..) institutions of higher education and institutions of vocational education have an opportunity to develop training of adults as stable action direction necessary for the society. Educational institutions in co-operation with regional entrepreneurs should be aware of local and global tendencies in the national economy in order to be able to foresee and offer such content and format of studies, which would promote regional development and the competitiveness of individuals and organisations in economy of tomorrow (148)
- (..) a solution should be found for the way to create a link between the system of formal education and information education, and further education of adults so that those who have not followed the traditional path of education would be provided with equal mobility opportunities not only within the scope of educational system, but also in the labour market (149)
- Study e-books, study books and materials should be freely available also in the e-environment (164).

How specific strategy points are implemented in specific study programs is discussed in the self-evaluation report section of each program.

The main tasks for the study direction are as follows:

- To ensure acquisition of knowledge and skills necessary for the profession;
- To promote the development of attitudes that ensure the acquisition of qualification and promote the student's competitiveness in the changing socio-economic circumstances;
- To promote the development of the student into a spiritually developed, free, responsible and

creative personality;

- To promote self-learning, develop skills and abilities required for information gathering;
- To develop information technology thinking and promote students' analytical skills;
- To promote the student's creative development in the daily study process, as well as to develop initiative, awareness, accuracy;
- To ensure high quality education competitive in EU;
- To conduct research in Information technology based on professional practice;
- To promote the proportion of research in studies;
- To create motivation for further education;

The planned learning outcome of the study direction "Information technologies, computer engineering, electronics, telecommunications, computer management and computer science" is highly qualified IT professionals, competitive in their field under circumstances of globalization, who with their knowledge and skills, would be able to promote regional development.

The study direction and the individual study programmes have very good prospects in the Latvian as well as the global context.

Cooperation among HEIs, research institutions and private sector as well as the transfer of research and innovation to the Information technology sector has also been determined as priority for Latvia in the near future and therefore the aims of the study direction and its implementation are directly related to the interests of the state and its vision of development.

To provide an opportunity for students to successfully master the study program and obtain the first level professional higher education and professional bachelor's education in computer systems and the corresponding professional, academic, scientific and intellectual competencies. To develop abilities to strengthen knowledge of computer sciences in a goal oriented manner and to promote the use of this knowledge in the development of one's thesis and professional activities. To acquire knowledge and skills of computer science theories and their application in practice. To develop students' abilities to work practically with various software products, systems and models. To comprehensively promote independent scientific research in computer science. To be able to solve problems related to the reduction of information security risks in software. To improve students' professional foreign language skills. To acquaint students with IT standards, professional ethics and professional psychology. To promote participation in the scientific research process, motivating students for further education at the bachelor's level.

* These links are located on the BAT internal network and will be available to experts during their visit or may be made available to experts before the visit upon request.

[1] https://www.pkc.gov.lv/sites/default/files/inline-files/Latvija_2030_6.pdf

1.3. SWOT analysis of the study direction with regard to the set aims by providing explanations on how the higher education institution/ college expects to eliminate/ improve weaknesses, prevent threats, and avail themselves of the given opportunities, etc. The assessment of the plan for the development of the study direction for the next six years and the procedure of the elaboration thereof. In case there is no development plan elaborated or the aims/ objectives are set for a shorter period of time, information on the elaboration of the plan for the development of the study direction for the next assessment period shall be provided.

Strengths of the study direction:

- The team of educators involved in the programme mainly consists of practitioners; the permanent staff members are involved in various projects to enhance their practical skills and carry out scientific research as well;
- the content of the study courses is based on an international standard, covering a wide range of globally accumulated knowledge, using the best examples of other universities, practice materials, thoroughly and carefully prepared lectures;
- labour market-oriented training, which is dynamic, because of the possibility to include new study courses relevant to the labour market in professional optional block;
- cooperation agreements concluded with governmental institutions and businesses as well as NGOs offers the opportunity to strengthen cooperation;
- rapid development of library resources with availability of the latest scientific literature and electronic databases;
- modern material and technical base - modern lecture hall equipment;
- newly worked out regulations for compilation of independent papers that foresee requirements for compiling the papers in electronic form thereby enabling develop a database for students' independent papers and help effectively fight plagiarism;
- in order to strengthen the strong tradition of scientific research, lecturers participate in IT professional development courses on writing scientific articles and in various seminars, which allow to improve the existing knowledge.

Weaknesses of the study direction:

- insufficient experience in implementing the new direction study program;
- opportunities for exchange of students and lecturers with other Latvian and foreign higher education institutions;
- insufficient scientific cooperation with foreign study programs and scientific research institutions in computer science;
- not a fast enough rise in the number of educators with doctoral degrees,
- insufficient number of elected academic personnel who are permanent staff members of Turība,
- lack of strong research in IT direction,

Opportunities for the study direction:

- work with students:
- cooperation with other HEIs including foreign HEIs could be strengthened, more agreements could be concluded on student exchange opportunities;
- it is necessary to improve students' awareness of how the study program will affect students' professional optional study courses for further study and profession acquisition;
- work with educators:
- define the aims of the study courses as learning outcomes in accordance with EQF standards and review the current study course aims and learning outcomes accordingly;
- work out more detailed and understandable criteria for the assessment of final concluding exams, study papers, qualification papers and bachelor theses;
- systematically control the implementation of the overall aims of the study direction in each of the study courses in the programme;
- monitor that the order of study courses is correct and coherent and that they are grouped in such a manner as to progress from simple to complex;

- enhance the methodological materials necessary for the study courses;
- to conduct a survey of students and graduates. For instance to gather and process information on the graduates' further career progress and further qualification expectations in accordance with the Cabinet of Ministers (MK) regulations No.348 "Procedure of submission of information by HEIs and colleges to the Ministry of Education and Science regarding their activities"
- cooperation projects and agreements with various Latvian and foreign educational and scientific research institutions;
- increasing the scientific and methodological potential of the staff, attracting qualified guest lecturers;
- further development of the material base, paying special attention to the establishment of laboratories, the latest books and scientific journals.

Threats to the study direction:

- insufficient research work by lecturers resulting in negative remarks from experts during the accreditation of the study direction,
- low salaries for educators making it difficult to attract well known researchers and IT sector professionals.
- the problem of substituting teaching staff in certain study courses;
- insufficiently used opportunities for attracting funding for the performance of scientific research and improvement of material and technical base;
- insufficient knowledge of applicants when taking the entrance examinations in the study program.

The development plan of the study direction "Information Technologies, Computer Engineering, Electronics, Telecommunications, Computer Management and Computer Science" is based on two documents:

- Latvia 2030 -Sustainable development strategy of Latvia
- Turība Strategic Guidelines 2021-2025.

Development plan drafting process:

- Recommendations, directions of development, strategic guidelines should be evaluated at the ITN methodological seminar;
- Setting development goals and objectives in collaboration with program directors
- Evaluation and approval of the development plan by the ITN Council.

The development plan is attached in the appendix.

1.4. The structure of the management of the study direction and the relevant study programmes, and the analysis and assessment of the efficiency thereof, including the assessment of the role of the director of the study direction and the heads of the study programmes, their responsibilities, and the cooperation with other heads of the study programmes, as well as the assessment of the support by the administrative and technical staff of the higher education institution/ college provided within the study direction.

Management structure of the study direction and the corresponding study programs

| | |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Study programme director | Carry out the practical implementation of their study program, prepare reports, make proposals on necessary changes in the program in accordance with the needs of the labour market; maintain links with program students, cooperate with professional organizations in the field |
| Head of IT study direction | Supervises the process of design and implementation of the study direction, promotes the development of the study direction and its existing programs, and, if necessary, proposes the design and incorporation of new programs in the direction. Recruits the appropriate lecturers, supervises the symbiosis of academic and scientific research work in the study process |
| ITN Council | Examines the self-evaluation reports, recommends improvements needed, evaluates the development plan and actual trends, and recommends programs, plans and amendments to the Senate for approval. |
| Turiba Senate | Approves programs to be included in the study discipline. Approves new programs |

Management of the study direction is implemented in a timely manner and is evaluated as effective, enabling rapid response to changes in the situation and implementation of necessary improvements. The existing cooperation between the program director and head of the IT study direction is considered to be very essential. Collaboration is implemented through methodological seminars, IT department meetings, discussions on the implementation of the study process, its improvement and actual trends. There is close cooperation between program director in implementing study courses and participating in the organisation and evaluation of student internship and study papers.

The existing cooperation between the head of the IT study direction and the ITN Council in evaluating the implementation of the direction, actual trends and opportunities for development is essential.

The head of the IT study direction reports to the Senate and the ITN Council on the effectiveness and possible improvements in the measures taken to enhance program quality during the previous study year.

Programme director

- analyses the achievement of the study program goals, the demand for study program graduates in the labour market and the quality of studies using quantitative indicators;
- number of students per study year;
- number of drop-out by study year and its causes;
- dynamics of students' progress in study courses and State examinations;
- demand of graduates in the labour market; graduate employment;
- offer of study opportunities in Latvian and foreign education market.

Quantitative indicators are provided by the Study Department.

The head of the IT study direction and the director of the study program analyse the quality of the study process and its implementers (the activities of the elected and attracted lecturers), using quantitative indicators:

- academic staff structure;
- qualification of academic staff and its growth;
- practical experience of the academic staff in their relevant study courses;
- research, methodological and consultancy activities of the academic staff;
- Publications of the academic staff.

The results of the analysis are reviewed during the final ITN Council meeting for the academic year and submitted to the program director.

The quantitative indicators are set out by the ITN, Personnel department and the research department.

Other departments also participate in the implementation of the study direction: Study information centre, Information system department, Library and Student Council.

The self-evaluation procedure for the study process (Approved by Senate 22.01.2014. decision) states that the goal of self-evaluation of study programs and process is to ensure continuous improvement of study quality management.

The management structure scheme of the study direction and description of tasks of structural units is attached in the appendix.

1.5. Description and assessment of the requirements and the system for the admission of students by specifying, inter alia, the regulatory framework of the admission procedures and requirements. The assessment of the study period, professional experience, and the options for the students to have their previously acquired formal and non-formal education recognised within the study direction by providing specific examples of the application of these procedures.

The enrolment regulations are in compliance with the Law on Higher Education Institutions, Cabinet of Minister regulations No. 846 "Regulations on requirements, criteria and procedure for enrolment in study programmes" as of 10.10.2006 and the Study regulations of Turība University. All citizens of the Republic of Latvia, persons who are entitled to the non-citizen passport issued by the Republic of Latvia, permanent and temporary residents of Latvia or persons based on inter university agreements shall be entitled to study at TU. TU Rector shall issue a decree on enrolment.

Requirements for students starting the study program are indicated in the Turība Enrolment Regulations of the respective study year (Turība Enrolment Regulations for the academic year 2020/2021 can be viewed on the BAT website (<https://www.turiba.lv/en/admission/admission>)). Study period, professional experience, the recognition of previously acquired formal and non-formal education takes place in accordance with the Turība regulations on [By-law on the recognition of knowledge, skills and competences achieved outside formal education or obtained by professional experience](#) (information is available on the website Section Study Process)[1].

The study results achieved through previous education or professional experience are evaluated and determined in accordance with the study programs implemented by Turība; if they meet the relevant requirements of the study programs implemented by Turība, they shall be recognized and

the relevant credits shall be awarded.

A person, who is not a student of the respective study program may be enrolled in the corresponding study period of this study program, after recognition of the study results and if necessary the scope of additional study courses or study modules and respective examinations to be completed are determined individually.

The following criteria must be met for the recognition of study results achieved through prior education or professional experience:

1. documents submitted by the person contain clear, unambiguous and complete information regarding the knowledge, skills and competences obtained or achieved;
2. at least one credit point can be granted for the recognised knowledge, skills and competences
3. the previous education obtained by the person meets the enrolment requirements in the respective study programme;
4. the person has successfully passed the additional examination set by the Commission and demonstrate knowledge, skills and competence corresponding to the relevant study program or part thereof.

Study results gained through professional experience can be recognised only if they have been achieved:

1. in the part of the respective study program which consists of practice, in addition, these study results must be achieved in the area of professional activity corresponding to the thematic area of education of the study program;
2. in the study course or study module of the study program which acquires practical knowledge, skills and competence.
3. Study results achieved in professional experience may be recognized in professional or academic study programs, and only 30 percent of the credits in a professional or academic study program may be awarded in recognition of study results achieved through professional experience.

The study results achieved in previous education can be recognized if they correspond to the level of higher education and have been achieved:

1. in an accredited study program;
2. in professional further education program, the acquisition of which gives the possibility to obtain the fourth or fifth level of professional qualification;
3. in a separate course or study module of the study program which the person has acquired as a listener;
4. as a part of the study program;
5. in other forms acquired outside formal education (except for study programs corresponding to regulated professions).

One credit for study results achieved through prior education or professional experience may be awarded if they have been achieved through at least one week (40 academic hours) of learning;

Study results achieved and recognized in previous education or professional experience may not be counted as final examinations, state examinations, final examinations, qualification examinations or doctoral theses of the relevant study program.

Graduates of the first level professional higher education program and bachelor study program "Computer systems" can demonstrate readiness, continue education, and there are cases where bachelor degree holders wish to supplement their professional competencies. An application for

starting education at later stages is written; the application and the supporting documents attached are reviewed by ITN, evaluated and a comparison of credit points is drawn up, transferring the credit points previously obtained and an individual study plan is drawn up for the for the remaining credit points.

Describing opportunities for recognition of professional experience and non-formal education in the study direction, it should be noted that a specially organised commission makes decisions regarding the recognition of previous professional experience and its equivalence to specific study courses on the basis of the application and the documents submitted to ITN for those studying in the professional bachelor's study program "Computer systems".

[1] http://nodarbibas.turiba.lv/regdok_en.asp

1.6. Assessment of the methods and procedures for the evaluation of students' achievements, as well as the principles of their selection and the analysis of the compliance of the evaluation methods and procedures with the aims of the study programmes and the needs of the students.

Study progress/achievements are evaluated on a 10-point scale based on the following criteria:

- Extent and quality of knowledge gained;
- Skills and competences acquired;
- Attitude towards learning;
- Dynamics of development of learning achievements.

The assessment system is designed by the lecturer of the respective study course, according to the credit points and scope of the study course, and the assessment system is described in each study program. The whole assessment system is regulated by [Examination regulations](#) examination regulations [1], [Study regulations](#), [Regulations on Application and Defence of Study Papers](#), [Regulations on compilation and layout of independent research papers](#) (these regulations are accessible to students and lecturers on BATIS under the section regulatory documents).

The lecturer of the study course can develop his/her own criteria according to the expected learning outcomes of the course, using the general evaluation criteria included in the study regulations.

The following basic principles are followed when assessing study results/achievements:

- Transparency of assessment of knowledge and skills - in accordance with the stated aims and objectives of the Program, as well as the objectives and tasks of the study course, there is a set of requirements for positive assessment of educational achievements;
- The principle of compulsory assessment - it is necessary to obtain a positive assessment for the acquisition of content of the study program

In order to make the grading system more "transparent" and more understandable to students, each study program includes the number of regular tests and independent work and their weightage in the final assessment; weightage is given for the final examination as well. Students can also see their marks on their BATIS, and thus follow their study progress.

One of the most important indicators of the institution's performance is the results of state examinations (regulated by [State examination regulations](#)). The State Examination Commissions are formed by inviting professionals of the field, university lecturers and is chaired by a doctor of

science from another university or research institute.

Evaluating the results of the examination, it is possible to evaluate the quality of the study process implemented at the higher education institution and to draw conclusions.

Methodological work is carried out during ITN methodological seminars and department meetings to assess students' achievements, methods of evaluation of achievements, and, if necessary, solutions are sought. Lecturers are encouraged to share their experience and provide suggestions and apply new methods.

Student surveys that are carried out at the end of each study course and once a year on the whole study process play an important role in determining the conformity of assessment methods to the program goals and the needs of the students. The results are evaluated and solutions are sought for preventing the problems identified.

The students can get acquainted with the criteria, requirements and procedures for student assessment on the Turiba homepage: http://nodarbibas.turiba.lv/regdok_en.asp

This information is also available on BATIS (Regulatory Documents section of the Study Information section)

<https://batis.turiba.lv/b3.dll/BAT/1/98AEEF128E78ED04FE62E54020191130223051971> (login with student password).

[1] http://inet.turiba.lv/dok_adreses/?nr=&psearch=p%E2rbaud%E2jumu+&Process=&st_search=&am_search=

https://batis.turiba.lv/pasn/b_pasn.dll/BAT/2/C874A0451C77716DF162E54020191130130414284

1.7. Description and assessment of the academic integrity principles, the mechanisms for the compliance with these principles, and the way in which the stakeholders are informed. Specify the plagiarism detection tools used by providing examples of the use of these tools and mechanisms.

Turiba pays special attention to principles of academic integrity and its observance by developing the regulatory framework, organizing informative seminars for lecturers, organizing informative work with students and using anti-plagiarism tools.

A number of internal normative enactments have been drafted to combat plagiarism.

The Regulations on compilation of students' independent papers determine the sequence and procedure for writing individual papers, with particular attention to procedure for references.

The Regulations on academic integrity and plagiarism identifies certain types of plagiarism, describing each of them as follows:

- Absolute plagiarism or playing with words. The author of the work submits work written by another author or authors under his/her name.
- Word by word plagiarism. The author of the work copies large fragments, one or more paragraphs or its parts to another text and submitting it as his/her own without citing references to the original sources.
- Unethical plagiarism. The author of the work submits a work under his/her name in which the names of other author/s who participated in the work are not mentioned.

- Fraudulence. The author of the work cites another student/s who had not participated in the compilation of the work as authors.
- Copying. Submitting the work repeatedly although the author/s guarantee that the work has not been submitted for publishing or assessment elsewhere.
- Paraphrasing. The author of the work takes the work of another author retaining the original content, paraphrasing it a little or not changing it at all and submits it as his/her own work.
- Incorrect sources. The work contains references to non-existing sources or deliberately exaggerated list of sources and literature without any references in the text.
- Secondary sources. The author of the work copies large fragments, one or more paragraphs or parts from secondary sources and submits it as primary sources.

The Study Regulations stipulate the students' obligation to study in good faith within the framework of the respective study program and to use the works of other authors only to the amount corresponding to the purpose of their use in carrying out research, obligatory indicating the author and title of the work used. It is stipulated that each test must be submitted in the form of a properly designed work and that there is no right to submit a single work several times unless it is substantially supplemented. The Study Regulations foresees cases where a student has not acted in good faith and has submitted a plagiarism or repeatedly submitted the same work without any significant additions. In such cases the student has to repeat his / her work, but in case of repeated violation the student is expelled. The State Examination Regulations regulate cases when students have submitted plagiarism for defence of their final thesis (qualification paper, bachelor's thesis or master's thesis). In such a situation the study regulations stipulate that the student is expelled with the right to rewrite and submit the thesis for defence within three years, but if the work shows signs of plagiarism repeatedly, the student is ex matriculated without the right to defend the thesis.

One of the tools for discovering plagiarism, the origin and the lawful use of which is unquestionable, is the unified computerized plagiarism control system (VDPKS), which was created jointly by Latvian higher education institutions [1], wherein it is possible to compare the works of students [2] with those of students of 16 Latvian higher education institutions, and documents found over the Internet as well. Turība has joined this system and examines every qualification, bachelor, master and doctoral thesis submitted.

As of November 15, 2019 Turība started using the Turnitin plagiarism system [3], an additional tool for combating plagiarism that can be used for student independent research by supervisors.

If plagiarism is identified, students are not admitted to the defence and are forced to rewrite and submit their work and pay an additional fee for the defence.

According to the Turība regulations, if a match is found between 15% and 30% of the work submitted to the VDPKS, the work is evaluated by a commission of three staff members organized by the ITN Council. However, if there is more than 30% of match then the work is considered to be plagiarism without further examination.

Papers of ITN students showing signs of plagiarism are evaluated by a commission formed by a Rector's decree, and the work is recognized as plagiarism if the following is recorded:

- similarity in views, comments, conclusions or recommendations expressed;
- similarity in order of sources used, references, citations, and facts;
- the same typing errors or common phrases are found in the work;
- similarity in the title of the paper, the plan and structure of the work.

No plagiarism was detected in the study direction of "Information Technologies, Computer Engineering, Electronics, Telecommunications, Computer Management and Computer Science" in the period from 2019 to September 7, 2020.

Principles of academic integrity, as well as cases of plagiarism, are discussed during methodological seminars.

To minimize such violations, students are introduced to the principles of academic integrity within the framework of various study courses and seminars organized by independent research supervisors.

[1] Accessible here (password protected): <https://plag3.lu.lv/cgi-bin/ul>

[2] University of Latvia, BA School of Business and Finance, Turība University, University of Daugavpils, University of Culture and Economics, Jēkabpils Agrobusiness College, Liepāja University, Latvia University of Life Sciences and Technologies, Rezekne Academy of Technology, "RISEBA" University of Business, Arts and Technology, Rīga Stradiņš University, Rīga Technical University, International Cosmetology College, Transport and Telecommunication Institute, Ventspils University College, Vidzeme University College

[3] <https://www.turnitin.com/>

1.8. Specify the websites (e.g. the homepage) on which the information on the study direction and the relevant study programmes is published (in all languages in which the study programmes are implemented) by indicating the persons responsible for the compliance of the information available on the website with the information published in the official registers.

The list of study programmes implemented at Turība is accessible on the Turība webpage:

<https://www.turiba.lv/en/study-programs>

The responsibility for correspondence of the information available on the website to the information available in the official registers lies with each study program director, for the study direction - the Dean and for the overall accessibility - the Development Department.

II - Description of the Study Direction (2. Efficiency of the Internal Quality Assurance System)

2.1. Assessment of the efficiency of the internal quality assurance system within the study direction by specifying the measures undertaken to achieve the aims and outcomes of the study programmes and to ensure continuous improvement, development, and efficient performance of the study direction and the relevant study programmes.

Turība [Quality policy](#) stipulates that:

The Quality Management System of Turība University is organized using a systemic approach for efficient and continuous improvement which has been designed in accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area and the strategic

guidelines of Turiba.

- Turiba identifies processes as well as maintains, uses and enhances a process measurement/benchmarking system.
 1. The Faculties, departments and other departments, management, employees and students shall be responsible for improving the performance of Turiba.
 2. All Turiba stakeholders shall also be involved in the enhancement of Turiba's performance.
 3. Turiba personnel (including its students) shall be involved in the introduction of the quality assurance policy and the maintenance and enhancement of the quality management system.
- Study programmes
 1. The design and approval of study programmes shall be organised in accordance with the internal procedures approved by the Turiba Senate.
 2. The study programmes that are designed in accordance with the Turiba strategy shall have clearly formulated goals and learning outcomes.
 3. Turiba students and educators as well as employers and social organisations shall be involved in the design of the study programmes.
- Students:
 1. Turiba's study process are student centred underlining an individual approach towards students during the study process.
 2. Turiba students are actively encouraged to participate in the enhancement of the study process.
 3. The teaching/learning methods, pedagogical approaches, introduction of innovations and new technologies are regularly reviewed.
 4. Involvement in the labour market and establishment of new enterprises is actively promoted during the study process.
 5. Assessment is consistent and in accordance with Turiba approved procedures. The assessment criteria and methods are communicated to both students as well as assessors.
 6. All complaints, suggestions and appeals are reviewed in accordance with procedures approved by Turiba.
- Study process
 1. The study process at Turiba is in accordance with the goals set and consistent, approved and published rules and regulations that describe the whole study process from the moment of enrolment of students till their graduation.
 2. The progress of students' study process is constantly monitored by Turiba.
- Personnel
 1. Competent personnel are employed in accordance with clearly defined, transparent and fair recruitment procedures.
 2. The study process is provided for by highly qualified Latvian and foreign educators, who are characterized by academic professionalism and integrity, as well as intolerance to academic fraud.
 3. Turiba provides its personnel opportunities and motivates them to enhance their professionalism and carry out research activities.
 4. Student and educator exchange and cooperation with other foreign higher educational institutions is promoted
- Resources
 1. Turiba provides all the necessary financial, personnel and materials resources required for its students and ensuring the performance of its activities.

2. A high level, modern material technical base, modern infrastructure and comfortable, safe and tidy environment is provided to support the study process.
 3. A convenient and supportive customer service is also provided.
- Information:
 1. Turiba systemises and analyses information regarding its activities and uses it for the enhancement of its study programmes and the internal quality management system.
 2. A systematic self-assessment of Turiba activities is carried out.
 3. Turiba cooperates with students, employers and other stakeholders to ensure a consistent feedback system.
 - Informing the Society
 1. Turiba publishes, clear, precise, objective, actual and easily accessible information about its activities through its webpages, social network profiles and informative brochures.
 2. Turiba personnel actively participate in forming public opinion through publications, lectures, seminars and conferences and are actively involved in social organisations.
 - Review
 1. Turiba regularly evaluates the correspondence of its study programmes to the expectations and needs of the students and the changing requirements of the society as well as the achievement of the goals set
 2. The review of study programmes is aimed at ensuring the actuality of its study programmes and their continuous development and is carried out with the involvement of students, employees, employers and social organisations

The quality policy is based on the BAT Strategic Guidelines, which define BAT's vision, mission and values, and include specific BAT goals and objectives for a specified period of time. It also includes indicators to monitor task performance, which is regularly monitored. The quality policy is also based on the following basic principles, which define the priorities of the higher education institution in order to develop its competitiveness, ensure the competitiveness of its employees, as well as ensure a qualitative, labor market-recognized, state-recognized study process. In order to comply with these fundamental principles, BAT shall pursue the following priorities in its activities:

- the client (both internal and external), which includes regular measurement of client satisfaction (students, graduates, employees, employers);
- offering a high quality service;
- continuous process improvement to ensure process efficiency, flexibility to meet customer needs as fully as possible;
- professional and personal growth.

Based on the vision and mission defined by BAT, the following aspects are considered in quality policy to achieve them:

- wishes and needs of existing students;
- the desires and needs of the graduates;
- lecturers' knowledge and skills in the professional field;
- examples of excellence in leading European universities.

Collegiate institutions play an important role in quality assurance at BAT, in which employers and students are actively involved. The powers and activities of these bodies are described in the by-laws of the Council of Advisers, by-laws of the Development Council, by-laws of the Rector's Council, and by-laws, which include the involvement of Faculty Councils in quality assurance. The results of BAT collegiate institutions are reflected in the minutes.

Qualitative indicators of program implementation are measured using various tools, statistical indicators are selected from the university's internal data system, such as the number of matriculated students, graduates. Different audience surveys information on students', employers', graduates' and employees' satisfaction level, level of pedagogical performance, parameters of graduates' professional career, such as remuneration, career development, etc.).

The dynamics of the results of these qualitative data are analyzed both at the management level and within each unit, thus ensuring prompt and adequate decision making regarding the necessary actions to be taken to ensure that the overall quality of service and customer satisfaction are raised or maintained.

The following principles are followed to ensure internal quality:

- senior management's interest in achieving the required level of quality;
- focusing of the institution on students, graduates and staff;
- deliberate involvement of staff in quality improvement and continuous improvement;
- involvement of academic staff in scientific activities;
- Process Approach - Operational evidence-based process management;
- evidence-based decision making.

The internal quality assurance of study programs is based on:

- analysis and comparison of study programs both at Latvian and international level;
- evaluation of lecturers;
- ensuring scientific activities;
- regular identification and analysis of the views of students, alumni, staff and co-operation institutions;
- careful financial and resource planning at all levels of management.

In order to continuously improve quality, BAT actively uses surveys whose objectives, implementation, data analysis and further use are described in the Survey Procedure. Surveys include evaluation of the study process and lecturer's professional performance, as well as assessment of the study environment, study program compliance with the labor market requirements, as well as employee satisfaction. Surveys cover students', graduates', employers' and employees' views. BAT also collects, compiles and analyzes information contained in student submissions as well as written and oral complaints (Procedure for Examining Student Submissions Received at the Study Information Center, Progress of Documents Received at the Secretariat, Complaints Receipt and Review Procedure). BAT regularly performs internal quality management system audits, the role and implementation process of which is described in the Quality Management System Internal Audit Regulations, and the results are reflected in the audit reports.

Quality control is implemented by organizing internal quality management system audits to assess whether the operations and processes of BAT units are consistent with the company's mission, vision and defined objectives, as well as to control compliance of processes and unit operations with regulatory documents.

For information on the compliance of the "INFORMATION TECHNOLOGY, COMPUTER TECHNOLOGY, ELECTRONICS, TELECOMMUNICATIONS, COMPUTER CONTROL AND COMPUTER SCIENCE" direction quality assurance system with Part 1 of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

The evaluation, improvement, promotion and motivation of the work quality of BAT employees is carried out with the help of the above-mentioned surveys, as well as Personnel Policy, Ethics Policy, Lesson Attendance Procedure, Research Regulations, Regulations on Consulting Services and

Projects of BAT staff. The academic and scientific work plan of the faculties, the individual work plans included in the regulations of the BAT staff remuneration organization, etc.

Improvement of material technical facilities and infrastructure is implemented in accordance with the procedure of economic and repair works, the procedure of inspection of buildings and equipment and preventive repairs, planning of repairs and improvement of IT technologies and using data of surveys of students and employees.

The process of continuous replenishment and improvement of the BAT Library Foundation is described in the procedure for the creation of the Library Fund and is carried out with the involvement of program directors, heads of departments and lecturers, as well as BAT Publishing and data from student surveys.

Daily improvement activities are provided by regular weekly meetings of managers, management meetings (by-laws of management), meetings of the Rector's Council (by-laws of the Rector's Council). The results of the Governing Board meetings and the meetings of the Rector's Council shall be recorded in the minutes.

All measures in BAT provide a continuous cycle of quality improvement. The BAT Quality Manual is periodically evaluated and revised (Procedure for developing and updating regulatory documents). All BAT regulations are available to BAT employees on the BAT intranet page. The normative document approved by the BAT Senate "Binding Documents Released to Students on the Internet and in the Student Information System BATIS" lists the BAT normative documents that are published to BATIS students and available on the BAT Website. The BAT Quality Policy is published both in the student information system BATIS and on the website www.turiba.lv under regulatory documents (<http://nodarbibas.turiba.lv/regdok.asp>).

The BAT library resources are supplemented before the beginning of each academic year.

Methodological guidelines, methodologies, manuals, etc. Binding documents published by students published on the Internet and in the student information system BATIS (Approved by the BAT at the Senate meeting of 22.05.2019, Minutes No.5).

All of the above resources are used and available for the "INFORMATION TECHNOLOGY, COMPUTER TECHNOLOGY, ELECTRONICS, TELECOMMUNICATIONS, COMPUTER CONTROL AND COMPUTER SCIENCE" direction at BATIS:

- Internal order
 - Behavior of BAT students in the event of fire or other emergency
 - Library Terms of Use
 - By-laws of Business Incubator
 - Terms of use of computer equipment
 - Information system usage rules for students and listeners
 - Resources available to students at no additional cost
 - "Turiba" Ltd. internal regulations
 - Rules of use of the gym
 - Regulations for processing and protection of personal data of students
 - Rules for use and maintenance of the premises
- Youth hostel
 - Miscellaneous
- Tuition fee. Loans. Discounts. Prices
 - Regulations on the competition for budget places and scholarships at the School of Business Administration Turība in the academic year 2019/2020
 - Regulations on the competition for budget places and scholarships at the School of

Business Administration Turība in the academic year 2020/2021

- Rules on changes in tuition fees when a student changes form, form and type of study, program or language of study
- Regulations for the application of tuition fee discounts in the 2018/2019 academic year
- Regulations for the application of tuition fee discounts in the academic year 2019/2020
- Rules for the rotation of tuition fee discounts in the 2018/2019 academic year
- Rules for the rotation of tuition fee discounts in the academic year 2019/2020
- V Rental and service charges. Tuition fees in the academic year 2019/2020
- V Rental and service charges. Tuition fees in the academic year 2020/2021
- Study process
 - Admission rules for the academic year 2019/2020
 - Admission rules for the academic year 2020/2021
 - Regulations for the Recognition of Knowledge, Skills and Competences Acquired through Non-Formal Education or from Professional Experience
 - Erasmus + Mobility Program Regulations
 - Procedures for providing answers to student applications considered
 - Statute of Academic Honesty and Plagiarism
 - Regulations on the development and presentation of independent research papers
 - Regulations on the submission and defense of study papers
 - Regulations on study procedures in double diploma and bilateral exchange programs
 - Examination regulations
 - Practice Statute
 - Study regulations
 - Procedure for interruption and resumption of studies
 - State examination regulations
- General documentation
 - Statute of the Academic Arbitration Court
 - Constitution of the School of Business Administration Turība
 - Regulations of the Faculties
 - Quality policy
 - Regulations of election of representatives of the Constituent Assembly
 - Statute of the Senate
 - Student self-government regulations

Qualitative indicators of the programme in the study direction are measured using various instruments and various statistical indicators from Turība's internal database system such as the number of students enrolled; number of alumni and students are also used. Survey of various target audiences are used to gather information on the level of satisfaction of students, employers, alumni and employees, the pedagogical performance of educators, professional career of alumni for example salaries, career growth etc.

The Quality Management Manual (Document v 139, approved by the Senate on 22.05.2019, Minutes No.5) regulates in detail the objectives and standards of the Quality Management System, the various processes and measurement systems, and other relevant quality assurance measures. The documents are accessible in electronic form at:

http://inet.turiba.lv/dok_adreses/?nr=&psearch=kvalit%E2tes&Process=&st_search=&am_search=

2.2. Analysis and assessment of the system and the procedures for the development and review of the study programmes by providing specific examples of the procedures for the development of new study programmes within the study direction (including the approval of study programmes), the review of the study programmes, the aims, and regularity, as well as the stakeholders and their responsibilities. Description of the mechanism for obtaining and providing a feedback, including with regard to the work with the students, graduates, and employers.

28.10.2019. The Turiba Senate approved a new document “Regulations for Development, Change and Approval of Study Programs. However, even before this internal legislation was adopted, study programs were designed and revised in accordance with the then existing procedures of Turiba.

The procedure for the program design process is as follows:

- The development of a new study program can be initiated by the Faculty Council, Dean, Head of Department, and Student Council.
- The proposal to create a new study program is considered at the Faculty Council meeting, which makes the decision.
- Following the decision of the council meeting to create a new study program, the dean or head of department organizes the preparation of the application for the establishment of the study program, which consists of:
 1. substantiation of topicality of the study program in the national and international context;
 2. substantiation of the necessity of the study program, indicating significant differences from similar study programs implemented by BAT;
 3. justification of compliance with BAT strategy and BAT resources;
 4. an evaluation of the potential program director;
 5. cost and profitability assessment.

Application for study program development is examined by a commission consisting of the rector, vice-rector for scientific and academic work, vice-rector for study development and international cooperation, head of finance department, dean or head of department that proposes the study program development, the potential program director and the student council representative. Upon receipt of a positive decision of the commission, the Dean or Head of the Department organizes a working group for the preparation of the study program content and implementation, which consists of potential stakeholders such as BAT representatives, lecturers, employers and social partners involved in the implementation of the study program. The description of the content and implementation are developed in accordance with the criteria for the assessment of the requirements set forth in the fifth paragraph of Article 55² of the Law on Higher Education Institutions and Cabinet Regulation No.795 “Regulations for Licensing Study Programs”. The dean or head of department organizes independent study program expertise, which is attached to the study content and implementation description. The Faculty Council shall review the description of the content and implementation of the study and decide on putting forward the study program to the Senate for approval. Study content and implementation documents shall be submitted to the Senators for approval not later than two weeks before the Senate meeting. The Senate gives a decision on the implementation of the study program and approves the program director. The Director of the Study Program prepares for the Academic Information Centre (AIC) an application for the licensing of the study program, signed by the Rector, and submits them to the AIC for a license for the study program.

If changes are to be made in a licensed study program, the following procedure shall be

followed:

- Changes in the study program can be proposed by the program director, dean, head of department, faculty council, and student council.
- Changes in the study program to be approved by the BAT Senate can be as follows:
 1. changes in the requirements set when starting the study program;
 2. changes in the place, form, language of study program implementation;
 3. changes regarding the compliance of the study program with the study discipline;
 4. the changes made during the period of accreditation of the study discipline regarding the duration or scope of the study program that exceed 20 percent to those specified in the application for the accreditation of the study program in the corresponding study disciplines;
 5. Reduction of qualification Turiba academic staff working in the respective discipline or study program since the previous accreditation of the study discipline if it concerns at least 20 percent of the total number of academic staff working in the respective study discipline or at least 50 percent of the overall performance (not including the elective part of the study program, internship and final examinations) in the respective study discipline is no longer ensured by the academic staff elected at BAT.

Desired changes in the study program shall be submitted by the program director for consideration by the Faculty Council, which shall decide on making the changes and forwarding it for approval to the Senate. After approval of the changes in the Senate, the program director prepares an application, signed by the rector, about the changes in the study program and submits it to the AIC.

The closure of the study programs is carried out according to the following procedure:

- The closure of the study program is proposed by the program director, dean, head of department at the Faculty Council, vice-rector for scientific and academic work, or rector.
- The Faculty Council considers the proposal to close the study program and forwards to the Senate for its decision.

Documents on the procedure for designing and revising study programs are available here: http://inet.turiba.lv/dok_adreses/?nr=&psearch=programmu+izstr&Process=&st_search=&am_search=

Review of the study programs according to the objectives to be achieved and the requirements of the labour market takes place by regularly preparing the program plan for the new study year. Necessary changes, proposed by the program director, take into account labour market requirements, ITN council recommendations, and student recommendations as well. Changes made, such as new optional courses, updating of compulsory courses, changes in regulatory requirements are evaluated and approved by the ITN Council and Turiba Senate.

Professional bachelor study programme "Computer Systems"

- study courses are combined from 2 CP to form 4 CP study courses. As, for example, "*Data Analysis and Benchmarking*" 2 CP and "*Big Data*" 2 CP, have been combined into a 4 CP study course "*Data Analysis and Benchmarking*". The 2 CP study course "*Introduction to Computer Architecture and Software Engineering*" has been combined with the 2 CP study course "*Introduction to Computer System*" into a 4 CP study course "*Introduction to Computer Architecture, Software Engineering and Computer Systems*", which also corresponds to the previous 2CP study course "*Data Networks and Communication*". It should be added that the 2 CP "*Course paper1*" is based on "*Practice*" or in other words, the student is able to go through practice and defend the developed solution as a study paper. It should also be added that the 2 CP study course "*Information conformity and security*" has been combined with the 2 CP study course "*IT risk management*" into a 4 CP study course "*IT*

security and risk management". The study courses "*Software Development Fundamentals 1*", "*Software Development Fundamentals 2*" have been changed to Java programming language and a specialist from "Tieto Latvia" has been recruited in order to be able to ensure the strengthening of programming fundamentals.

- The contents of the courses "*Algorithms and Complexity*" and "*Object Oriented Programming*" was appended and updated, and the lecturers for the specific study courses were changed as well.
- The study courses "*Software Development Fundamentals 3*" and "*Software Development Fundamentals 4*" were updated with the inclusion of *Microsoft Visual Studio C #* programming language training. The *DevOps* methodology is included in the study course "Course paper 1" as well. The relevant study courses in the study program enable educate and train graduates to meet the needs of the sector. Thus it is ensured that the direction meets the modern software development trends.

The mechanism for obtaining and providing feedback:

- with the students - at the end of each study course and the academic year students fill in a questionnaire in which they express their objections or recommendations for the development of the study program. The results of the student surveys are processed by the Development Department and passed on to the faculties. The Department takes these student recommendations into account when amending or supplementing the content of study programs;
- with graduates - once every two years the Development Department organizes student surveys. In these surveys graduates working often provide information on what was missing in the content of a course to ensure the necessary knowledge, skills and competences;
- with employers - at the end of each practice, the practice enterprise provides information on the student's knowledge and skills by answering questions such as: basic skills, professional skills, demonstration of initiative, etc. The ITN Council includes a number of employers' representatives whose views are carefully heard, debated and analysed. The information obtained is processed and used by modifying or supplementing the content of study programs.

2.3. Description of the procedures and/or systems according to which the students are expected to submit complaints and proposals (except for the surveys to be conducted among the students). Specify whether and how the students have access to the information on the possibilities to submit complaints and proposals and how the outcomes of the examination of the complaints and proposals and the improvements of the study direction and the relevant study programmes are communicated by providing the respective examples.

Students have access to information regarding opportunities for making complaints and suggestions:

http://inet.turiba.lv/dok_adreses/?nr=&psearch=iesniegumu+izs&Process=&st_search=&am_search=

All claims and suggestions should be made to the Study Information Centre (SIC), which will then be

addressed to the responsible department. The structural unit responds to the results of the review and the improvements made (deadlines are controlled). This procedure is set out in the procedure for reviewing student applications received by the Study Information Centre approved by the Senate on 24.04.2019 and the Board decree dated 26.04.2019.

In turn, the document "Procedure for acceptance and review of claims", approved by decree No.55 of the Deputy Chairman of the Board as of 14.09.2011. states that 2.2. Turība accepts any claim addressed to it by a natural or legal person and gives its author a substantive reply in accordance with the procedures prescribed by the laws and regulations of the Republic of Latvia.

Acceptance of claims

Claims from natural or legal persons are accepted as written applications by the heads of structural units, in departments and faculties - also by assistants and secretaries, in the Secretariat - by secretary, in the Study Information Centre - employees of the Study Information Centre.

Claims in writing shall be filed and registered with the Secretariat or the SIC, as appropriate. Written claims shall be answered in writing.

Any employee of BAT who hears an oral claim shall inform the head of their unit. Responses to oral submissions shall be agreed with the complainant.

If the complainant wishes to address the matter to Turība management (the Chairman of the Turība Board or his deputy) in person, the Board secretary shall arrange an appointment.

Review of oral complaints and decision-making

If an oral complaint does not require additional verification, head of a structural unit makes a decision on the case and informs the complainant accordingly.

If a complaint requires additional information, the complainant should be duly informed about this fact.

If a complaint requires transfer to another structural unit in charge of the particular issue, it should be performed either by sending an e-mail letter to the head of the particular unit or by informing the head of unit orally and simultaneously - informing the complainant.

Review of written complaints, decision-making and providing response.

After receiving a written complaint, secretary of the Secretariat or employee of SIC no later than the next working day forwards it to the head of the structural unit responsible for the particular issue. Prior to that secretary or an employee of SIC should verify if the complaint concerned is not a repeated complaint.

In case of dealing with a repeated complaint, it is submitted attaching documents related to previous claims or complaints.

In accordance with written instructions of the head of a structural unit, secretary of the Secretariat or employee of SIC forwards a copy of complaint to the responsible executive who prepares information necessary for assessment of the situation.

The Head of the responsible structural unit assesses the prepared information and takes a decision.

The Secretary of the Secretariat or employee of SIC ensure/control that the response is provided in a timely manner.

The Secretary of the Secretariat or employee of SIC has the right to ask responsible executives information regarding the review of a particular complaint.

After making a decision the responsible executive prepares a written answer to the complainant based on the decision made and submits it for signature to the head of the responsible unit

After providing a reply to a written complaint, its time and method of delivery is registered at SIC or Secretariat register

All information accumulated during the process of reviewing a complaint is filed with the Secretariat or SIC.

Record-keeping and preventive activities.

Heads of structural units ensure filing of oral complaints in their units and prepare annual (every June) reports of all complaints received in their units and submit them in writing formally or by e-mail

The Secretary of the Secretariat and an employee of SIC prepare a summary of the written complaints received and submit it to the Head of Secretariat.

The report shall be prepared listing the themes and number of complaints as well as listing actions taken and recommendations for increasing effectiveness of the system.

The Head of Secretariat summarises the reports received and prepares recommendations for streamlining functions or processes in the areas which have received repeated complaints.

2.4. Provide information on the mechanism for collecting the statistical data, as developed by the higher education institution/ college. Specify the type of the data to be collected, the collection frequency, and the way the information is used to improve the study direction.

Statistics are compiled in accordance with the Personal Data Processing Policy (approved by the Management Board decision No 21 of 08.05.2018).

In accordance with the policy, personal data are stored in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data concerned are processed; personal data may be kept longer insofar as personal data are processed only for archival purposes in the public interest, for scientific or historical research purposes or for statistical purposes in accordance with Article 89 (1) of this Regulation, provided that appropriate technical and organizational measures intended to protect the rights and freedoms of the data subject are carried out.

Turiba has developed an internal data processing system, which enters and stores the necessary data and can be accessed with a password.

Data is regularly collected on student numbers and status (updated monthly, external reports provided), mobility (updated continuously, twice yearly reports), success rates, internship, as well

as final thesis topics (as required) and state examination results (2 times a year). If necessary, data may be requested (from the Study Department, International Department, and Faculty) and collected for in-depth analysis. The data are used for the improvement of the study discipline, including changes in the credit points of individual study courses, addition of new study courses (especially in Parts B and C), conversion or removal of outdated study courses.

2.5. Description and assessment of the integration of the standards set forth in Part 1 of the ESG. Specify which of the standards are considered a challenge and which require special attention.

1. Quality assurance policy

Increased attention is being paid to this standard.

BAT has a Quality Assurance Policy that supports:

- Organisation of quality assurance system (policy, Quality management handbook);
- the responsibility for quality assurance of departments, departments, faculties and other structural units, as well as the higher education institution's management, individual staff members and students (Regulations of the Faculties, [Student council regulations](#), Ethics policy);
- academic integrity and freedom and intolerance towards academic fraud ([Regulations on academic integrity and plagiarism](#); [Academic arbitration regulations](#));
- combating all forms of lack of tolerance and discrimination against students or staff - multicultural environment, giving everyone the opportunity to study regardless of gender, race, health (Turiba University internal regulations)
- the involvement of external stakeholders in quality assurance, with the involvement of employers, social partners and the Faculty Council through their recommendations for improvement;

All publicly available documents are accessible at: <http://nodarbibas.turiba.lv/regdok.asp>

2. Program design and approval

Increased attention is being paid to this standard.

Programmes:

- study programs are developed in accordance with education and professional standards, providing students with both academic/professional knowledge, clearly articulating both skills and competences, to fully prepare students for the labour market in line with current industry trends.
- they are designed according to the requirements of the standards - taking into account the proportion of compulsory and elective courses and their scope in credit points. Study program levels are designed to create continuity.
- are built around carefully planned practice opportunities,
- are subject to the approval procedures set by the higher education institution, are developed taking into account also the provisions of the Constitution of the higher education, institution, programs and plans are finally approved by the BAT Senate.

3. Student-centred teaching, learning and assessment

Increased attention is being paid to this standard.

- taking into account and respecting the diversity of the student body and their needs, the educator decides on the most appropriate teaching methods for each group individually, adapting it to the individual characteristics and abilities of the group.
- taking into account and using different ways of implementing the programs, the topics are presented in an interactive way, where appropriate, by asking questions to students and encouraging discussion, as well as through presentations, seminars, group work;
- teaching methods and pedagogical methods are regularly evaluated through methodological seminars, discussions, department meetings, visits;
- learners are encouraged to become independent - under the guidance of the lecturer - independent studies, independent work, research, practice is a compulsory part of the study process. ;
- fostering mutual respect in student-lecturer relationships - through dean lessons, introductory seminars, individual and group discussions with students; discussing problem situations at methodological seminars;
- There are appropriate procedures for resolving student complaints - the "*Procedure for acceptance and review of complaints*" has been developed, the procedure for contesting the study course results is stipulated in the *Study Regulations*, the contesting of the State Examination results is in accordance with the State Examination Regulations. Turiba regulations on rotation of tuition fee discounts for 2019/2020 define the procedure for contesting the results (scholarships, discounts) in the academic year.

The following shall be taken into consideration for the assessment of students:

- the assessors are familiar with the methods of tests and examination and receive support for the improvement of their skills in this field - the lecturers work in accordance with the *Study Regulations, the Examination Regulations*, assessment criteria are discussed in seminars and at the meetings of the Department. Supported by Dean, Vice Dean, Head of Department;
- the assessment criteria and methods, as well as the criteria for putting marks, have been made public in advance - the *Study Regulations, the Examination Regulations, study course descriptions and regulations* are available to each student and lecturer in the BATIS system;
- assessment gives students the opportunity to show the extent to which they have achieved the expected learning outcomes - assessment criteria for regular and final tests;
- Students receive feedback - a follow-up analysis takes place in the form of discussions where the student will be able to identify the strengths, weaknesses,
- Practice and study papers are evaluated by a commission of two lecturers, the state examination is evaluated by a commission composed of five (including professional) members;

4. Matriculation of students, study process, recognition of qualifications and certification

Increased attention is being paid to this standard.

- Enrolment regulations that set out the criteria for admission and procedure for matriculation are accessible both on Turiba's internal information system (BATIS) as well as the Turiba webpage [Enrolment regulations for the study year 2019/2020](#));
- Prior to submitting documents to the university, prospective students have access to relevant information on the Turiba website, including study program content, tuition fees, procedure for obtaining scholarships and budget places and rotation of tuition fee discounts, etc. <http://www.turiba.lv/lv/studijas/viss-par-iestasanos/294/>
- Both the website and the regulatory documents provide information on student mobility opportunities and criteria <http://www.turiba.lv/lv/studijas/studijas->

[arzemes/104/](#) (arī Erasmus+ mobilitātes programmas nolikums)

- Study progress - matriculation, study content, study process organisation are determined by Study regulations. ([Study regulations](#))
- Turība also implements the recognition of results achieved in previous education or professional experience ([Regulations on recognition of knowledge, skills and competences gained through non formal education or professional experience](#))
- Monitoring of the study process of students is carried out - surveys, summary of examination results, compilation of statistics of students.

5. Educators

This standard is addressed but partly perceived as a challenge due to the necessary funding

- Academic staff shall be recruited on a regular basis as appropriate [Akadēmiskā personāla vēlēšanu nolikums](#)
- Lecture visits are conducted regularly to assess the educators' professional qualifications in their daily work. After passing the course exam students have the opportunity to express their opinion on all the lecturers. The surveys are conducted anonymously, and students are encouraged to express their views about the lecturers, indicating their positive and negative qualities. Provides opportunities and encourages educators to develop their professionalism;
- There is a regular planning and implementation of the academic staff development policy, and it is planned to support qualification improvement measures also financially - to pay the tuition fee, as well as travel and accommodation expenses, if necessary. The academic staff is involved in scientific research (creative) work. There will be incentives for academic staff and students to publish more of their research, paying for translation and publication wherever possible. Research results are published in internationally available and peer-reviewed editions.

The academic staff involved in the study program are highly qualified and competent and provide students with the necessary research skills, theoretical knowledge, skills and competences.

6. Learning resources and support for students

Increased attention is being paid to this standard.

The infrastructure provisions at TU are regularly appended, renewed and modernised;

The library regularly purchases new literature, both in print and in electronic format.

Students of all departments have free access to the library and other resources at all times.

Students are provided assistance during consultations with educators. The student can address any questions concerning the study process to the Study Information Centre, the department or faculty, or the International Department on international mobility issues.

7. Information management

Increased attention is being paid to this standard.

1) Qualitative indicators of the programme are measured using various instruments and various statistical indicators from Turība's internal database system such as the number of students enrolled; number of alumni and students etc. are also used. Survey of various target audiences are used to gather information on the level of satisfaction of students, employers, alumni and employees, the pedagogical performance of educators, Professional career of alumni for example salaries, career growth etc.

2) The satisfaction of students with the existing system is ascertained by the annual students'

survey and if necessary, improvements are made to the TU information system BATIS, computer and LAN connection in the lecture halls as well as to the quality of the Wi-Fi internet access.

3) The dynamics of qualitative results are analysed at the management level as well as by each structural unit thereby ensuring prompt and adequate decision making to take the necessary corrective and preventive action required to maintain and enhance the overall quality of services provided and the level of satisfaction of customers.

4) Within the scope of its competence, Turiba collects and compiles students' studies, progress and drop-out indicators.

5) Students are regularly updated through BATIS with the latest information about their deadlines, changes in normative documents, etc. Students also have access to study course descriptions and study materials.

6) Alumni surveys are conducted on a regular basis to ascertain their career progression.

8. Informing the Society

Increased attention is being paid to this standard.

Information regarding activities of students, alumni and their success stories are regularly published;

Educators work in the public domain as opinion makers and opinion leaders through not just the publication of research articles but also expressing recommendations and opinions in the mass media;

Turiba news is published on the website www.turiba.lv, and on Turiba profile on various social networks, such as facebook.com and Instagram. As well as on mass media.

9. Program monitoring and periodic review

Increased attention is being paid to this standard.

Program monitoring and periodic review of

- the content of the program, taking into account the results of recent research in the sector, thus ensuring that the program remains relevant;
- changing needs of society;
- student workload, study progress and graduation;
- effectiveness of student performance assessment procedures;
- students' expectations, needs and satisfaction with the program;
- study environment, support services and their relevance to the program objective.

Programs are regularly evaluated and reviewed with the involvement of students and other stakeholders. The information collected is analysed and the program is updated to ensure it is up to date. The results of the program evaluation are published on the Turiba website in the form of annual PNZ reports, which are available here: <http://www.turiba.lv/lv/studijas/studiju-programmas/studiju-virzientu-pasnovertejuma-zinojumi-un-parskati/346/>

10. Cyclic external quality assurance

This standard is noteworthy, but in part is perceived as a challenge as not everything can be fulfilled due to limited funding.

Cyclic external quality assurance is implemented in the process of licensing study programs and

accrediting study disciplines.

Licensing and accreditation do not end with post-assessment activities at the university. Turiba ensures that progress from previous external quality assurance is taken into account in preparation for the next.

[1] Standards and guidelines for quality assurance in the European Higher Education Area (ESG). Accessible at: http://www.aic.lv/portal/content/files/AIC%20ESG2015%20int-1_2.pdf

II - Description of the Study Direction (3. Resources and Provision of the Study Direction)

3.1. Provide information on the system developed by the higher education institution/college for determining the financial resources required for the implementation of the study direction and the relevant study programmes. Provide data on the available funding for the relevant study programmes, as well as the sources of the funding for the scientific research and/or artistic creation activities and their use for the development of the study direction. Provide information on the costs per one student (for each relevant study programme of the study direction) by specifying the headings indicated in the calculation of costs and the percentage of the funding among the indicated headings.

TU uses only private funds for study provision. TU financial position is remarkably stable. Every financial year, starting from the foundation of the university, has ended with a profit. The reason for this is the successful economic activity of the higher education institution as well as well-considered and goal oriented activities in the field of education. The financing plan for each year is determined by the budget of the institution. Revenue consists of tuition fees for higher education, participation fees for seminars, hotel services and income from other economic activities. Expenditure is planned in the budget proportional to the revenue, the main items of which are salaries of staff, social security payments, maintenance of premises and utilities, material expenses for provision of the study process, purchase of new equipment, as well as renovation and repair of premises. Financial resources to ensure the implementation of the study programs in the study discipline:

The net turnover for the financial year 2018/2019 is EUR 5 564 614, the gross profit is EUR 1 488 422 and the profit after tax for the year is EUR 375 967.

Turiba's revenue from tuition fees has increased by 9.1 % (by 382 549 EUR). Total net turnover increased by 8.1% (415 606 EUR).

Total after-tax profit for the year increased is EUR 375 967 and in comparison to the financial year 2017/2018 decreased by 18.8% due to an increase in operating costs.

Amount of share capital in the balance sheet of the reporting year as of 30.06.2019 is 2 134 300 EUR with retained earnings of EUR 2 248 501, and total equity of EUR 5 975 502.

Sources of funding for research include TU funding, as well as individual projects involving TU or individual lecturers. This funding is used both for participation in conferences with reports and for translation of publications. For indexing a publication in Scopus or WoS databases, an additional bonus is given to the lecturers. Both conference papers and publications are written about the issues included in the study programs, and the researched material is used in the study process

and included in the respective study courses.

Another factor determining the stability of a higher education institution is the diversified and branched structure of study programs and forms of study, which allows Turība to compensate income in one sector when the market narrows in another sector. Combined with prudent, thrifty and efficient use of resources, a stable revenue base is a necessary factor for the continued operation of the university.

Investments in the development of TU are made by forecasting changes in the demographic situation as well as in the European Higher Education Area and Latvian regulatory system. Such an approach will ensure the Turība's future growth.

Costs per student for the study year 2020/2021 is attached in the Appendix.

3.2. Provide information on the infrastructure and the material and technical provision required for the implementation of the study direction and the relevant study programmes. Specify whether the required provision is available to the higher education institution/ college, availability to the students, and the teaching staff (the specific equipment required for the relevant study programme shall be indicated in Part III, Chapter 3 below the respective study programme).

Turība has at its disposal all the resources necessary for the implementation of the study discipline and the corresponding study programs:

1. All necessary conditions/environment for studies are present – new conference halls, lecture rooms, computer classes, and modern library with a spacious reading room. The lecture rooms are equipped with high quality visual equipment – white boards, OHTs and screens, multimedia projectors, audio and video equipment. Students have access to computer workstations. Stationary multimedia projectors as well portable one are available. There is sports hall which can also be used in the study process.
2. Students can use the whole territory of Turība for practical lessons (except places which have been leased out or restricted areas), including the car park and other buildings.
3. The Turība Business incubator has been created for special training of students and they can practically acquire professional skills in business management processes.
4. The infrastructure provisions at TU are regularly appended, renewed and modernised;
5. The library regularly purchases new literature, both in print and in electronic format.
6. Students of all departments have free access to the library and other resources at all times.
7. Students are provided assistance during consultations with educators. The student can address any questions concerning the study process to the Study Information Centre, the department or faculty, or the International Department on international mobility issues.
8. Turība provides part-time distance learning (e-studies), using INTERNET technologies. The Information Systems Department provides technological support to the study process, to ensure the maintenance and improvement of the information system

Turība University is the largest private higher education institution in Latvia with stable traditions and a clear vision of the future in the context of the European Higher Education Area. The university, founded on July 5, 1993, is proud of its 15606 graduates and as of 01.09.2019 has 3333 students in the academic year 2019/2020. The university has modern lecture halls, classrooms, an

open access library, a student campus and a gym.

The University has been granted an indefinite accreditation (Accreditation Certificate Registration No. 002, 08.05.1997), educational institution registration No. 3343800213. The university has three faculties:

- Faculty of Business Administration,
- Faculty of Law
- Faculty of International Tourism
- (IT faculty is foreseen in the future)

Turiba offers a wide range of study opportunities for students - to study in bachelor, master or doctoral study programs in English. Currently, apart from ERASMUS students, 468 students from 27 countries study in English at the university.

Turiba is the leading private higher education institution in Latvia, which provides modern, multi-level, business-oriented education. Turiba strives to be competitive, dynamic and profitable for its owners for a long time. By cooperating with professional education institutions, industry associations and employers' organizations, Turiba only offers a range of study programs that meet the requirements of the labour market, are in demand and are state-recognized. Turiba graduates are able to compete confidently in the Latvian labour market.

The core value of our university is highly qualified, competent, progressive academic staff and professional administrative staff. Turiba promotes the successful acquisition of study programs with a high level, modern material - technical base and a wide range of methodological materials.

Turiba takes care to provide its customers with modern infrastructure, as well as a comfortable, safe and tidy environment. Reliability and professionalism, as well as successful previous cooperation, are important criteria when choosing suppliers.

The operation of the university is based on continuous improvement, as well as on the principles of excellent business and quality management system, satisfying the wishes of customers and gaining their trust.

Library of Turiba University

The Library is a structural unit of Turība - a publicly accessible library that holds and maintains information resources for academic and research activities.

The library provides library users with information resources and services necessary for the study process and scientific activities; develops and supplements the Library Collection and Library Information System (BIS) "Alise" with the latest, up-to-date information resources in cooperation with the faculties, departments, etc. structural units according to the directions of scientific work of the higher education institution and requirements of study programs.

The library's electronic catalogue: <https://w3i.turiba.lv/Alise/en/home.aspx>

In the field of Information Technology, according to the UDC (Universal Decimal Classification), the library has sections where literature on this topic is available both in Latvian and in foreign languages, see below.

UDC sections of computer science

| | | |
|-----|----------------------------------------|------------------------------------------------------------------------|
| 004 | Datortehnika. Programmnodrošinājums | <i>Computer science and technology. Computing. Data processing</i> |
|-----|----------------------------------------|------------------------------------------------------------------------|

| | | |
|-------------|---------------------------------------------------|---------------------------------------------------------------|
| 044 (03) | Datortehnikas vārdnīca, rokasgrāmatas | <i>Dictionaries and handbooks of computer engineering</i> |
| 004.4 | Programmatūra | <i>Software</i> |
| 004.43 | Programmēšanas valodas | <i>Programming languages</i> |
| 004.6 | Dati. Datu bāzes | <i>Data and data bases</i> |
| 004.7 | Tīkli. Lokālais tīkls. Ārējie tīkli. Internets | <i>Computer communication. Computer networks</i> |

The library fund (as of 17.01.2020) consists of 53,723 copies of books, in the field of information technology - 263 titles (1296 copies) of books.

The library provides the library collection, incl. availability of electronic databases for independent studies and research; organizes and provides library and bibliographic services, modernizing and extending the quality of services provided. The University subscribes to online electronic databases: Scopus, ScienceDirect, LETA. Nozare.lv., Letonika, Lursoft, EBSCO Academic Search Complete, EBSCO eBooks Academic Subscription Collection, EBSCO Business Source Complete, also constantly providing students the opportunity to use trial databases:

<https://www.turiba.lv/en/library/online-databases>

The library provides users with a comfortable and work-friendly environment. Extensive collection of free-access books - subscription with user-accessible electronic catalogue, library reading room with latest press issues. The library has 182 workstations out of which 59 are computer workstations. The library offers a variety of library services to students and other users of the library:

<https://www.turiba.lv/en/library>

Turiba invests annually in supplementing the library's information resources (both for purchasing literature and subscribing to electronic databases). Turiba University Library is a member of LATABA (Latvian Academic Library Association).

Turiba University premises, computer classes and Information system

Turiba is located in Riga on Graudu Street 68, and occupies a territory with an area of 35,372 m². The university can simultaneously host 2,756 students in terms of the provision of study premises. All Turiba buildings belong to the university as can be seen from the Land Register entry on September 16, 1996. According to the Law of the Saeima of the Republic of Latvia dated November 4, 1995, Turiba is included in the list of educational objects of national significance. The university campus includes 2 study buildings, a youth hostel for students, two canteens and a parking lot.

All necessary conditions/environment for studies are present – spacious conference halls, lecture halls, computer classes, laboratories and classrooms and modern library with a spacious reading room. The lecture rooms are equipped with high quality visual equipment – white boards, OHTs and screens, multimedia projectors, audio and video equipment. Lectures take place in spacious conference halls, lecture halls, computer rooms, and students have access to a modern library with

a large reading room. The lecture halls are equipped with high quality visual equipment – white boards, OHTs and screens, multimedia projectors, audio and video equipment. Students have access to 164 computerised workstations. 30 stationary multimedia projectors have been installed and 2 portable ones are available as well. The lecture halls and common areas are maintained by the university's housekeeping service department, which regularly cleans and ventilates the premises.

Since 2013, a modernized Business Incubator has been in operation, where Turiba students and graduates can set up their own companies. Students have access to computer workstations. 28 stationary multimedia projectors have been installed and 2 portable ones are available as well. Free Wi-Fi is available all over the Turiba university campus. For the convenience of students, a Turiba information system (BATIS) has been created, in which every student can follow their progress, see descriptions of study courses and study materials, receive the most important information regarding the study process, as well as electronically apply for various testimonials and permits.

Turiba has its own IT systems department, which ensures the operation of the IT environment. The technical service ensures the operation of computer equipment and computer network, programmers - operation and development of Turiba's internal information system (IS) and BATIS.

Turiba has three computer classes: 29, 30, 37 student work stations+ lecturer's workstation with projector. The reading room has 60 computers for students' independent work. The JTM computer room has 12 computers for students' independent work. 25 lecture halls are equipped with a multimedia projector and a computer (excluding small ones where there is only a computer or a computer + TV). MS Windows operating system and MS Office have been installed on all computers. Computer specification in classrooms and reading room - Intel 4xcoreI5 / 4GB RAM. All computers are connected to a network with Internet and Intranet access.

MS Office, - MS Windows, MS Office is available for students and employees for studies or work. Data storage and user authentication is provided using MS Windows and Novel OES servers. The IS developed by the Turiba IT department is used to ensure the study process. Turiba subscribes to "MS IT Academy".

Additional software includes SPSS, Fidelio, CorelDraw, UVFam - Zalktis, MS Project. The Moodle environment is used in the e-learning process. Library functions are provided by ALISE software.

A computer class was equipped with new hardware for the academic year 2019/2020. These included 23 new computers with respective specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". Two projectors were installed as well: "Maxell MC-EU5001 (WUXGA, 5000Lm)". Software licenses were bought for "JetBrains Toolbox", and a lease agreement for "Microsoft Office 2013".

3.3. Provide information on the system and procedures for the improvement and purchase of the methodological and informative provision. Description and assessment of the availability of the library and the databases to the students (including in digital environment) and their compliance with the needs of the study direction by specifying whether the opening times of the library are appropriate for the students, as well as the number/ area of the premises, their suitability for individual studies and research work, the services provided by the library, the available literature for the implementation of the study direction, the databases available for the students in the respective field, the statistical data on their use, the procedures for the replenishment of the library stock, as

well as the procedures and options for the subscription to the databases.

The Information Systems Department is a structural unit of Turiba that provides for the study process by offering students and lecturers BATIS, which contains information about the whole study process in terms of calendar plan, study courses and their lecturers, requirements and rights in the study process, regular, and final examinations, study and student loans, academic leave, guest lectures, conferences, discussions, and other current events in Turiba.

Information about possibilities to use Turiba library services is included in the study course descriptions of all study programs.

The main task of the library is provide the latest text books and scientific literature for the various study programmes and research directions offering access to not only a wide range of text books and press editions but also to online and local databases and other information resources.

The Turiba University library offers students a modern automated free access library with an electronic subscription/registration system as well as access to books and periodicals using the electronic catalogue ALISE: (accessible at <https://w3i.turiba.lv/Alise/en/home.aspx>). If the user has a computer with Internet access, *Turiba* library's electronic catalogue can be accessed from anywhere in the world.

The list of business-related books available in the library is appropriate for ensuring a successful study process for both Latvian and foreign students. The library subscribes to periodicals in print and electronic form. The library resources are mostly in Latvian, Russian, English and German. The heads of the various departments and programme directors in cooperation with the library personnel work out the list of books, journals and electronic databases to be purchased for the new forthcoming academic year.

The University subscribes to online electronic databases: LETA, Nozare.lv., Letonika, Lursoft, Scopus, ScienceDirect, EBSCO Academic Search Complete, EBSCO eBooks Academic Subscription Collection, EBSCO Business Source Complete, and trial databases are constantly used as well:

<https://www.turiba.lv/en/library/online-databases>

Online databases are accessible for students not only at the Turiba library, but also remotely by logging in with their password on to the BATIS environment.

The library provides users with a comfortable and work-friendly environment. The total area of the library is 1532 m². Extensive collection of free-access books - subscription with user-accessible electronic catalogue (708.40 m²), library reading room with latest press issues (772.90 m²). Currently, 182 work places are available for students, 59 of them computerized and there is also a quiet reading room and specialized work places for group work. (Technical premises 51.10 m²).

The library offers a variety of library services to students and other users of the library: <https://www.turiba.lv/en/library>

Library working hours:

- For subscriber's Monday - Thursday 10.30 - 18.30; Friday 11.00 - 18.30; Saturday 8.30 - 16.00.
- Reading room Monday - Saturday 00.00 - 24.00

UDC sections of computer science

| | | |
|-------------|---------------------------------------------------|------------------------------------------------------------------------|
| 004 | Datortehnika. Programmnodrošinājums | <i>Computer science and technology. Computing. Data processing</i> |
| 044 (03) | Datortehnikas vārdnīca, rokasgrāmatas | <i>Dictionaries and handbooks of computer engineering</i> |
| 004.4 | Programmatūra | <i>Software</i> |
| 004.43 | Programmēšanas valodas | <i>Programming languages</i> |
| 004.6 | Dati. Datu bāzes | <i>Data and data bases</i> |
| 004.7 | Tīkli. Lokālais tīkls. Ārējie tīkli. Internets | <i>Computer communication. Computer networks</i> |

Night subscription, an additional service provided, is a service that offers the opportunity to borrow and use resources on-site (printed matter, books, periodicals, etc.) beyond official Library working hours.

Turība Library is a member of LATABA (Latvian Academic Library Association).

Suggestions on the need to supplement information resources can be put forward by program directors, heads of departments, deans. These suggestions are considered by the Rector's Council and in case of a positive decision, the resource maintaining unit (e.g. Library, Information Systems Department) evaluates the information resource proposals, develops an estimate and makes the necessary agreements.

Turība invests annually in supplementing the library's information resources (both for purchasing literature and subscribing to electronic databases).

3.4. Provide information on the procedures for attracting and/or employing the teaching staff (including the call for vacancies, employment, election procedure, etc.), and the assessment of their transparency.

The study process take place under the guidance of experts, educators who are practitioners: IT architects, systems analysts, senior programmers, testers, project managers, project manager assistants, company managers who provide not only theoretical knowledge, but also practical experience educate and train students for solving practical tasks in real life situations. The elected academic staff are also actively involved in various projects.

The staff recruitment and employment processes at Turība are determined by several regulations:

Regulations on Election of Academic Staff approved by Senate 28.09.2016. meeting determine the procedures by which:

- assistants, lecturers, assistant professors are elected,
- associate professors and professors on the boards of other relevant professors of higher education institutions are proposed for election.

Vacant positions of academic staff in Turība departments are appointed by the Rector on the proposal of the Dean of the Faculty, the Director of the study program or the head of the department. Applicants, both resident and non-resident, with education and / or professional experience in accordance with the requirements of the Higher Education Institution Law and Turība job descriptions, may apply for vacant positions in the academic staff. The process is open, with Turība administrative staff and other faculties participating as observers.

Turība University announces competition for vacancies in academic positions twice each academic year. It is a long-term strategy, which allows to increase the proportion of academic staff elected at Turība University as permanent academic staff by 1-2 lecturers every year. However, the election of such lecturers involves financial investments, so it cannot be implemented rapidly, especially at a time when the number of high school graduates and university students is on the decrease

Application procedure:

- The competition shall be announced by the Turība Personnel Division in accordance with the regulatory enactments of the Republic of Latvia on the recommendation of the Rector and the approval of the Board.
- Applicants must submit their application to the Turība Secretariat within one month from the date of publication of the vacancies.
- The application must be accompanied by a copy of the CV, educational, academic and scientific credentials, a list of publications and / or significant achievements in the speciality (industry) during the last six years, and any other project specified in the publication.
- Upon submission of the application, the Applicant shall be acquainted with these Regulations. If the applicant submits documents by mail, then at the request of the applicant the Regulations will be sent to him by e-mail.
- Applicants' documents for election to the position of Associate Professors and Professors in the boards of professors of other higher education scientific boards shall be submitted by Turība Personnel Division to Turība science department for evaluation.
- The Scientific Council of the Turība science department shall evaluate the eligibility of applicants for the position of Associate Professor and Professor and report on its decision to the Turība Senate.
- At the meeting of the Turība Senate, by open vote, a decision is made to recommend the election of the Board of Professors of Science of another higher school.
- Upon receipt of a positive approval from the Turība Senate, the Rector prepares a letter to the professor's council of another university, asking them to evaluate and elect the candidate for the position (while guaranteeing payment for the work of the respective professors' council).

The competition takes place in three (3) rounds:

- In the first round of the competition, the documents submitted by the applicants are checked for their compliance with the requirements announced.
- Documents submitted in the second round of the competition are examined by the departments, inviting the candidates,
- In the third round of the competition, candidates for the academic staff positions are evaluated and elected according to the regulations of the Faculty's Extended Council.

After the applicants have been elected for academic positions, Turība shall enter into employment contracts with them for the period of election specified in the regulatory enactments of the Republic of Latvia.

If the employment contract is terminated during the specified term of the election, the new

employment contract shall be concluded only after re-election to the academic position.

The lecturers of the study field are reviewed every year and replaced if necessary.

The procedure for the selection of scientific research assistants, researchers and leading researchers at the Turiba Institute of Business Technology is determined by the by-laws of the Institute of Business Technologies.

Regulations on the election of the academic staff are available here:

http://inet.turiba.lv/dok_adreses/?nr=&psearch=%E2la+v%E7l%E7%F0anu&Process=&st_search=&am_search=

Visiting lecturers are attracted through the ITN Council and cooperation partners, businessmen, professional associations. Visiting lecturers are evaluated by the IT department and the personnel department by assessing their professional experience and education. An agreement is concluded with visiting educators, for the duration of the specific work.

3.5. Specify whether there are common procedures for ensuring the qualification of the academic staff members and the work quality in place and provide the respective assessment thereof. Specify the options for all teaching staff members to improve their qualification (including the information on the involvement of the teaching staff in different activities, the incentives for their involvement, etc.). Provide the respective examples and specify the way the added value of the possibilities used for the implementation of the study process and the improvement of the study quality is evaluated.

In order to ensure the qualification and quality of work of the academic staff, an incentive system of remuneration has been established, which is described in the Regulations of the organization of TU staff remuneration (approved by the Senate on October 23, 2019):

- Academic staff with a fixed-term salary system shall prepare an electronic report of their individual work plan at least twice during the study year, at the end of December and June.
- Academic staff who are temporary staff (the hourly rate), the monthly salary is calculated by multiplying the amount of scheduled academic hours recorded in the individual work schedule by the hourly rate and divided by ten.
- Payment for paid services and unplanned guided work shall be made in the form of bonuses in addition to the salary at the end of each semester, but not later than January for Semester 1 and July for Semester 2 or the relevant month.
- The total funding of the Faculty for the remuneration of the academic staff and academic positions is 19% of the total tuition fee income in the respective program.
- If there is an overall positive cash balance for the faculties at the end of the financial year, 15% of it is transferred to each faculty bonus fund in proportion to the balance of each faculty, and 85% is placed in a reserve for faculty development.
- The funding of the academic staff and visiting lecturers is distributed by the deans of the faculties to the departments in proportion to the number of credit points of the study courses implemented in the department and the number of academic groups. In agreement with the Dean, the number of students in the academic group may be changed.
- The salaries of the academic staff of the respective department shall be determined by the head of the department in agreement with the dean and the vice-rector for academic work,

but they shall not be lower than the rates established by the Cabinet of Ministers.

- For lecturers with academic load in student groups of more than 30 students (regardless of the number of adjoining groups), the rate is increased by 0.67% for each additional student starting from the 31st student in the particular group. All students who have an active student status and have no payment debts are taken into account, and the actual attendance of lectures is not counted and not taken into account. The amount of the additional payout is calculated each month and paid along with the payroll for that month.
- Remuneration for visiting lecturers
 - A contract is concluded with visiting educators, for the duration of the specific work.
 - The hourly rate set for visiting lecturers is not less than the rates set by the Cabinet of Ministers.
 - Remuneration shall be paid in accordance with the actual pedagogical workload recorded in the delivery acceptance act
 - Foreign visiting professors are paid travel and accommodation expenses in Latvia once per study year.
 - The responsible faculty, which invites the foreign visiting lecturer, prepares an estimate of the planned costs. The total costs are shared between all faculties in proportion to their revenues.
 - The director of the program receives a performance bonus based on the qualitative and quantitative criteria that have been met.
 - The quantitative criteria for the Program Director's bonus are as follows:
 - The bonus is applied to and paid for each calendar month in the course of a study year at the rate of salary
 - Bonus is calculated for the two periods of the academic year - I semester and II semester based on the information submitted by the Study Department to the Finance Department on the number of Latvian students matriculated as of September 15 and January 15.
 - From September 1, 2019, the program directors' bonus is per month for each student studying and paying for the program. The bonuses are paid twice a year at the end of each semester. These bonuses are not applicable to doctoral programs, as well as organizational security college and undergraduate programs, as these are subject to other alternative principles for calculating bonuses.
 - The qualitative criteria for the Program Director's salary are as follows:
 - Development of self-assessment reports.
 - Organization of employer surveys.
 - Attracting external financing.
 - Working with and retaining students.
 - Work with lecturers, lecture visits.
 - Cooperation with branches.
 - Improvement of program quality.
 - The Dean assesses the qualitative criteria for the Program Director's bonus. In the event that the work for the Program Director is carried out by another person, the Dean shall be entitled to pay part of the salary of the Program Director to another person.

Improvement of the educators' qualification is the motivation of TU academic staff and the enhancement of their experience and scientific potential.

Further qualification is provided for by lecturers participating in conferences, publishing articles, monographs, sharing experiences or teaching courses within Erasmus +.

During the study year the lecturers of the field are involved in projects organized by TU, where lecturers additionally acquire professional competences and foreign language skills. The acquired knowledge is used in the study process in work with students.

In order to increase the interest of the lecturers to improve their qualification, discussions and exchange of experience are organised during seminars held at ITN departmental meetings. The lecturers are granted funding for participation in international scientific conferences.

3.6. Provide information on the number of the teaching staff members involved in the implementation of the relevant study programmes of the study direction, as well as the analysis and assessment of the academic and research workload. Provide the assessment of the incoming and outgoing mobility of the teaching staff over the reporting period, the mobility dynamics, and the issues which the higher education institution/ college must tackle with regard to the mobility of the teaching staff.

Educators who are involved in the implementation of the study direction are elected academic staff, as well as accounting, marketing and sales professionals as well as visiting lecturers. During the reporting period 32 - 23 educators were involved. Educators participate in research, take part in project implementation, and go on mobility to partner universities. Guest lecturers share their practical experience and participate in practical seminars.

The lecturers involved in the study programs carry out the prescribed academic workload according to their position, which includes not only lectures, practical work, but also preparation for lectures, evaluation of regular exams, which is a labour-intensive process. Regardless, each lecturer continues his / her self-education, self-improvement, acquiring current information in the study course he / she teaches and further scientific research in the chosen field. This is done through self-study, participation in conferences and gaining experience in raising the quality of the study process at other universities, and lectures within Erasmus+ mobility as well. The Erasmus+ mobility program is valuable for improving the study process at TU.

Unfortunately, the standards set by the European Commission (10% staff mobility for student mobility) are not sufficient for every lecturer to benefit from Erasmus+. No other significant problems have been observed in the implementation of Erasmus mobility for the lecturers.

Information attached in appendices:

- *a table (in Excel format) providing basic information on the teaching staff involved in the field of study, indicating their degree / qualification, the status of their election at the university, the study programs and courses they participate in and proof of knowledge of the official language and foreign language (if applicable).*
- *CVs of teaching staff (Curriculum Vitae in Europass format).*
- *statistics on incoming and outgoing mobility of teaching staff during the reference period.*

3.7. Assessment of the support available for the students, including the support provided during the study process, as well as career and psychological support by specifying the support to be provided to specific student groups (for instance, students from abroad, part-time students, distance-learning students, students with special needs, etc.).

The Student Council Regulations determine the support available for students (approved by the Senate as of 28 September 2016)

The tasks of the Turiba SP are, among other things, to represent students in the national and international environment, to identify students' needs, interests and desires for improvement of the academic process and to make proposals for their implementation, as well as to draft SP budget and monitor its use.

Turiba SP has the right to request and receive information and explanations from authorised representatives of all Turiba structural units regarding any issues related to the interests of the students;

Study process support is provided by program directors, heads of departments, branch managers, vice dean, dean, helping students integrate into the study process and providing answers to questions by advising on the study process. Communication can take place both in person and over the telephone, as well as via digital communication (E-mail, Skype).

Distance learning students can also use the communication tools available on Moodle.

The Student Information Centre also provides support to students by advising on issues regarding conclusion of contracts, continuation of studies, termination of studies, and change of study form.

Support for international students, including psychological support is provided by the International Department.

In accordance with the Business Incubator Regulations (approved by the Senate on 23.01.2019) its services are available to students, graduates, teaching staff, other employees of higher education institutions, as well as to any business start-up or entrepreneur. Students widely use the services provided:

Service "Legal address" that entails permission to register one's enterprise with its legal address at Turiba University, Graudu street 68 A, Riga, LV-1058, as well as metal locker for receipt of correspondence and document storage.

Service "Hot desk" that provides a free work station on the Business Incubator premises that is not specifically allocated to any client. All work stations are equipped with internet and printer connectivity. If necessary, the work station can be additionally equipped with a computer for an additional charge. The service includes the service "Legal address". The service includes access to the use of all rooms and kitchen facilities as well as electronic entry card.

Service "Dedicated desk" provides a fixed work station on the Business Incubator premises that is specifically allocated and reserved for solely one client. All work stations are equipped with internet and printer connectivity. If necessary, the work station can be additionally equipped with a computer for an additional charge. The service includes the service "Legal address". The service includes access to the use of all rooms and kitchen facilities as well as electronic entry card.

The service "Room for events" provides the opportunity to lease the Business Incubator premises

for specific events. The service includes access to relevant equipment (internets, WiFi, projector, screen, computer, TV, whiteboard, furniture), as well as use of kitchen facilities.

Service "Event Organisation" includes planning, organising and managing events for clients with the help of Business Incubator team.

II - Description of the Study Direction (4. Scientific Research and Artistic Creation)

4.1. Description and assessment of the directions of scientific research and/or artistic creation in the study direction, their compliance with the aims of the higher education institution/ college and the study direction, and the development level of scientific research and artistic creation (provide a separate description of the role of the doctoral study programmes, if applicable).

The research activities of the study direction correspond to the priorities set by the Turība, which pay special attention to the provision of high-quality higher education, development of new knowledge and their application in solving issues important for the Latvian economy and society.

The research is carried out in accordance with the tasks set for the IT study direction - to conduct professional practice-based research in IT.

Research directions and topics of the lecturers:

- 1) Maksims Žigunovs – Electrical engineering, electronics, information and communication technologies, systems analysis, modeling and design
- 2) Jānis Pekša – Electrical engineering, electronics, information and communication technologies, systems analysis, modeling and design
- 1) A. Bulis - Economics, competitiveness factors, economic cooperation in the context of Latvia-China.
- 2) A. Medne - Economics and trade, problems of harmonization of tax rates, practical aspects of accounting;
- 3) O. Onževs - Economics and trade, identification, optimization and forecasting of complex economic and technical systems, information technologies opportunities in business;
- 4) R. Zvirgzdiņa - economics, SME development in Latvia;

Scientific research in the field: participation in scientific and practical research work, projects, conferences, publication of monographs. Evaluating performance it could be said that the scientific research activity of the study direction has improved during the reporting period and lecturers are more actively involved in research.

More information can be found in the appendices on samples of educators' publications and educators' CVs.

4.2. The relation between scientific research and/or artistic creation and the study process, including the description and assessment of the use of the outcomes in the study process.

Scientific research and the study process are closely related and complement each other. This interaction is manifested as follows:

- the final results of the lecturers' scientific research, which are published in scientific monographs, scientific publications, etc. are used in the study process, approbation of research results, using practical examples obtained during the research, encouraging the students to get acquainted with the research and promoting the study course acquisition;
- Within the study process, lecturers develop new ideas for scientific research, as new aspects and issues that have not been researched yet or little researched emerge during the study process;
- Students are required to compile various research papers or reports within the framework of several study courses. Each year students are required to develop study papers that are related to the study courses and during the final semester - qualification paper or bachelor thesis wherein students carry out real research on problems related to IT field, within the framework of the qualification acquired.

Educators give advice both during the study courses and by organizing seminars for their students on how to successfully develop independent research, how to work with library databases, etc.

- Every year an international scientific conference is organized at Turiba with a special focus on the student section. Students are invited to participate at the conference with their research, which is developed in close connection with the study process and the study courses (marketing, trade, accounting and taxation, etc.).

There is an increasing use of research in student theses.

4.3. Description and assessment of the international cooperation in the field of scientific research and/or artistic creation by specifying any joint projects, researches, etc. Specify those study programmes, which benefit from this cooperation. Specify the future plans for the development of international cooperation in the field of scientific research and/or artistic creation.

Collaboration in scientific research is carried out through educators' participation in international conferences, including abroad and by carrying out research in cooperation with foreign researchers and implementing international cooperation projects.

Every year Turiba organizes international scientific conferences where Turiba educator and colleagues from other countries share their research; information accessible on the Turiba website:

<https://www.turiba.lv/en/research/scientific-conference/history-of-scientific-conferences>

Lecturers of the study direction regularly participate in international scientific conferences abroad; examples of successful and repeated cooperation: University of Zilina (Slovakia), Lower Silesia University Wroclaw, (Poland), Porto Polytechnic University (Portugal), Vilnius Gediminas Technical

University (Lithuania), Kaunas University of Technology (Lithuania). Educators also regularly participate in international conferences organized by other Latvian higher education institutions, such as Rezekne - RTI, Jelgava - LLU ESAF, Liepaja University, RISEBA.

Every year Turiba publishes the **scientific journal** "*Acta Prosperitatis*". The journal is indexed in the international EBSCO database, and scientific articles on scientific research of doctors and doctoral students of Latvian and foreign universities are published in this journal. Electronic versions of the journal are available on the BAT website:

<https://www.turiba.lv/en/research/journal-acta-prosperitatis>

Educators of the study direction engage in research work and write scientific articles in cooperation with foreign researchers, for example, Aldis Bulis, Ivars Linde.

Cooperation with SWU "Neofit Rilski" and Lithuania Business University of Applied Sciences has been initiated on the implementation of the Erasmus + COVID19 project; the project application was submitted on 29.10.2020 as the leading partner.

Lecturers throughout the university are involved in two EU-funded projects on "Improving Governance at Turiba University" and "Strengthening Academic Staff of Turiba University in Strategic Specialization Areas" as well as nine other projects. The projects enables the strengthening of lecturers' competences, and promoting cooperation with foreign lecturers involved in the projects.

Cooperation in the study direction on scientific research can be considered successful and it is planned to develop it further by engaging in the implementation of new projects and continuing existing scientific cooperation. All the study programs of the study direction benefit from the cooperation, because the lecturers involved can use their newly acquired experience and competences to work with students.

4.4. Specify the way how the higher education institution/ college promotes the involvement of the teaching staff in scientific research and/or artistic creation. Provide the description and assessment of the activities carried out by the academic staff in the field of scientific research and/or artistic creation relevant to the study direction by providing examples and the summary of the quantitative data on the activities in the field of scientific research and/or artistic creation relevant to the study direction over the reporting period, for instance, the publications, participation in conferences, activities in the field of artistic creation, participation in projects by the academic staff members, etc., by listing the aforementioned according to the relevance.

The goal of TU strategy is to focuses on the development of the academic staff: Our academic personnel are knowledgeable, highly experienced and carry out research work that is useful in practice. During these years a stable team with relatively little variability has been formed, able to implement the study process based on both theory and practice. Turiba provides opportunities both for the continuation of academic education and opportunities for participation in various further education courses. Anticipating the increase in the number of foreign students, English courses were also organized for groups of employees with different backgrounds using Turiba's resources. Several educators were involved in various ERASMUS+ projects.

In 2019, participation in the EU-funded project "Strengthening Academic Staff of Turiba University

in Strategic Specialization Areas” offers even more opportunities. Up to February next year, four professional development seminars are planned on a variety of very topical themes.

Similarly, both last year and this year we funded the publication of several scientific monographs, as well as participation in conferences, presenting internationally quoted scientific research. The total budget earmarked by the University Science and academic staff development last year exceeded one hundred thousand euros. Turiba has established procedures for one-time payment to the author or team of scientific articles, published and indexed in the scientific databases of SCI, SSCI or SCOPUS, Web of Science and Engineering Village.

The budget for scientific research was not used fully and this was mainly due to the slower-than-expected production of publications as well as the relatively lengthy registration of these publications in internationally cited article databases. The funding provided for this year is also sufficient to ensure the professional development of the academic staff.

To emphasize that TU faculty members are industry professionals and experts, monthly articles are produced on a variety of topics actual for the society and business. Each month, a number of educators express their opinions on areas such as ICT, among others on mass media. The image of the academic staff- experts is gradually gaining ground in the media, which makes journalists increasingly turn to TU educators for advice and comment.

Research of the academic staff is carried out in accordance with the task set in the field of economics - to conduct professional practice-based research in IT. Realized scientific research is in line with IT trends and covers a variety of IT disciplines and challenges. The research topics (shown in appendix Nr. 4.1) correspond to the courses taught by the lecturers and the direction of IT in general.

Scientific research activity is evaluated as active, participation in various research projects during the reporting period, participation in international conferences, publication of articles (SCOPUS, Web of Science, EBSCO, etc.), publication of monographs, has increased. Lecturers' research activities are a scientific and practical contribution.

Appendix:

- 1) Samples of data collections of scientific research and/ or artistic innovations relevant to the study direction.*
- 2) a list of the most significant publications of the teaching staff.*

4.5. Specify how the involvement of the students in scientific research and/or artistic creation activities is promoted. Provide the assessment and description of the involvement of the students of all-level study programmes in the relevant study direction in scientific research and/or artistic creation activities by giving examples of the opportunities offered to and used by the students.

Student involvement in scientific research is encouraged within the study direction.

Within the independent research work foreseen for the first level professional higher education program students carry out practice-based research work and compile study papers and qualification paper, which are presented during the defence of study and qualification papers enabling discussion of the research results and their application in practice.

Bachelor students are involved in research of various types and levels of complexity from the first year of study. Students' interest in research is stimulated through study courses such as Research methods and Presentation skills, Research methods in trade. Independent research papers - study papers are elaborated during each study year, and during the last year of study the bachelor thesis as well.

At the annual Turiba scientific conferences, special attention is paid to student participation and students are motivated to participate. The best student research works are published on the Turiba website

<https://www.turiba.lv/en/research/student-research>

4.6. Provide a brief description and assessment of the forms of innovation (for instance, product, process, marketing, and organisational innovation) generally used in the study direction subject to the assessment, by giving the respective examples and assessing their impact on the study process.

Different study process innovations and innovative methods are applied in the study process. TU lecturers were provided with the opportunity to acquire various skills and knowledge in several seminars:

1. Innovations in Higher Education Pedagogy- The latest in psychology - From conscious practice to research worth the Nobel Prize. January 2019.
2. Enhancement of lecturers' language competence - Academic English Writing. March 2019.
3. Professional competence of university lecturers - Application of Contemporary Teaching / Learning Methods and Strategies at HEI. April 2019.
4. Innovations in Information Technologies and their application in the study Process - Opportunities for improvement of e-study materials. June 2019.
5. Professional competence of university lecturers - Academic Integrity", October 2019.
6. Professional competence of university lecturers- Getting Started with Originality Checker. November 2019.
7. Professional competence of university lecturers - Administrative efficiency, quality and financial management aspects. November 2019.
8. "Innovations in Higher education content" January/February 2020.
9. "Online learning methods" January/February 2020.

IT direction is proud of its business incubator, an environment tailored to develop business ideas and innovative solutions. Students can work individually, in teams, get useful tips.

To support business innovation, the "Business Night" is organised, which is a business idea contest where teams of participants create a business idea plan within 24 hours, which would at the same time provide a solution to one of the challenges posed by the organizers. Lecturers of the study direction participate providing consultation to participants and evaluating the results.

It should be noted that 1 lecturers of the University have worked as experts of the Latvian Council of Science during the reporting period, which is an important indicator of research quality and a prerequisite for the development scientific innovation.

| Name Surname | Field of science | Sub branch of science | Duration |
|---------------|------------------|------------------------|-------------|
| R. Zvirgzdiņa | Social Science | Economics and business | 15.11.2020. |

The use of innovative solutions promotes greater student engagement and interest in the study and research process.

II - Description of the Study Direction (5. Cooperation and Internationalisation)

5.1. Provide the assessment as to how the cooperation with different institutions from Latvia and abroad (higher education institutions/ colleges, employers, employers' organisations, municipalities, non-governmental organisations, scientific institutes, etc.) within the study direction contributes to the achievement of the aims and learning outcomes of the study direction. Specify the criteria by which the cooperation partners suitable for the study direction and the relevant study programmes are selected and how the cooperation is organised by describing the cooperation with employers. In addition, specify the mechanism for the attraction of the employers.

To fully realize the goals of the directions and achieve the learning outcomes, cooperation with Latvian and foreign higher education institutions, employers and employers' organizations is implemented.

Cooperation with employers and Professional organisations

Cooperation is implemented as follows:

- 1) students have the opportunity to pay a study visit to companies and business organizations, for example, "Accenture Latvia", "Zabbix", "Envirotech", "Kleintech", "Wonderland Media", "Visma Enterprise", "Central Statistical Bureau", etc. ;
- 2) educators invite guest lecturers who are professionals in the field and representatives of IT companies;
- 3) entrepreneurial cooperation partners provide, if necessary, practice places;
- 4) cooperation with professional organisations is based on industry trends, as gathered from the opinions of leading IT companies and the demand for programmers observed in the labour market. As already mentioned, this information is obtained from cooperation partners who are IT companies and determine the industry trends. Accenture Latvia's continuous BootCamp (<https://www.accenture.com/lv-en/about/company/about-latvia>) activities, which are organised at least 3 times a year for Java / Software engineering, which are always full with at least 25 participants can be mentioned as an example. After such activities, the majority are offered paid internships and students have the opportunity to earn some money. IT students actively participate in applying for "BootCamp".

The cooperation is realized both on a contractual basis and on the basis of the long-term

cooperation of ITN management and lecturers with industry organizations and employers.

Cooperation with Latvian HEIs/colleges that implement similar study directions and study programmes

Turība has concluded several cooperation agreements with other higher education institutions in Latvia. Cooperation agreements are concluded according to the study programs implemented, cooperation covers both the provision of study processes, in case of liquidation of programs, and the possibility to continue education at a higher level, cooperation in the implementation of research, e.g. cooperation with "Ventspils University College", "Liepāja University", "Rīga Technical University", "Institute of Electronics and Computer Science".

Lecturers of the study direction attend scientific conferences of other universities, invite lecturers of other universities at their conference, which takes place once a year, and every year one of Turība Faculties /Departments is responsible for the organization, the organization of the 2021 conference is entrusted to ITN. Lecturers of the study direction also invite colleagues from other universities.

Cooperation with foreign HEIs,

Collaboration agreements have been concluded with more than 100 HEIs worldwide and these enable the organization of scientific forums of better quality and broader scope and exchange of students and educator internship abroad. Cooperation is under way through Erasmus + mobility, double degree, bilateral exchange programs. Information on opportunities and partner institutions is accessible at the BAT website:

<https://www.turiba.lv/en/for-students/exchange-programs>

Collaboration is ongoing on various international projects. Lecturers of the study direction participated in the NordPluss project in 2019, partners - Mikolas Romeris University (Lithuania), Turku School of Economics / Turku University (Finland) and Southern University of Denmark (Denmark).

A cooperation project with Finnish partner institution will start soon.

Successful cooperation with other higher education institutions in Latvia and abroad is ongoing within the study direction. Cooperation with several foreign universities, both in joint projects and in the mobility of lecturers and students is ongoing and is planned to be intensified.

Cooperation with employers and employer organizations is also successful.

The following activities are promoted:

- development of co-operation with foreign higher education institutions in order to conclude co-operation agreements on the establishment of joint study programs and co-operation in the field of scientific research;
- regular analysis of the study processes related to the ICT sector in the context of the achievements of other higher education institutions, search for opportunities to enhance the quality of studies;
- regularly invite guest lecturers;
- regular use of lectures by visiting professors, webinars to inform students about the world of computer science and the EU, to expand competencies at the international level;
- cooperation with other Latvian higher education institutions;
- to stimulate students' cooperation with secondary schools.

The main precondition for the implementation of cooperation is the student-centred approach and

the development of competences appropriate to the labour market, as well as the development of the lecturers' competences.

Information on cooperation agreements is attached in the appendix.

5.2. Specify the system or mechanisms, which are used to attract the students and the teaching staff from abroad and provide a description of the dynamics of the number of the attracted students and the teaching staff.

The attraction of foreign students and lecturers mainly takes place within the framework of the Erasmus+ Mobility Program and its procedure is specified in the "Erasmus+ Mobility Program Regulations" (approved by the Senate on 22.05.2019).

Foreign students at Turiba University

A foreign student shall apply for the Erasmus Exchange Program using an online application form at www.turiba.lv by the date specified by Turiba, accompanied by a copy of an identity document, a photograph, a Curriculum Vitae and a Study Agreement containing the study courses offered by Turiba. The study agreement must be signed by the Foreign Student and the Partner Institution.

Upon receipt of an application from a foreign student, Turiba shall examine the possibility of ensuring that the foreign student has access to all the study courses included in the study agreement. If possible, the Dean of the respective Faculty and the Vice-Rector for Studies Development and International Cooperation sign the study agreement. If changes to the study agreement are required, the signed study agreement is accompanied by changes sent to the partner HEI.

After the study agreement is signed, the foreign student is included in the exchange student study group by the Rector's decree. A separate student file is created for the foreign student.

After completing studies at Turiba, the foreign student is awarded an academic certificate of the courses he / she has acquired and a certificate of time spent in Erasmus studies.

Twenty-seven students from South Korea, Ukraine, Kazakhstan, Georgia, Russia, Moldova and Belarus studied in Turiba in the bilateral exchange programs in the academic year 2018/19.

Mobility of university lecturers and staff

The number of Turiba lecturers as guest lectures for the next study year, their distribution by faculties shall be determined by the Vice-Rector for Study Development and International Cooperation by August 1 of the current year.

The Turiba Faculty shall, by decree of the Dean, determine the procedure for the selection of lecturers for the mobility program, with priority given to lecturers who have not participated in the mobility program for a long time and those that teach study courses in English.

By October 1 of the current year, Turiba faculties shall submit to the International Cooperation Department the list of lecturers nominated for participation in the mobility program.

The number of Turiba staff for experience exchange for the next study year, their distribution by structural units shall be determined by the Vice-Rector for Study Development and International Cooperation by August 1 of the current year.

Turiba structural units shall submit to the International Cooperation Department by 1 October of the current year a list of the staff nominated for participation in the mobility program.

Prior to commencement of the mobility, the Lecturer concludes a tripartite Teaching Agreement with the host institution and Turiba.

Prior to the commencement of the mobility, the Turiba staff member concludes a tripartite experience exchange agreement with the host institution or company and Turiba.

Following the mobility, the Turiba lecturer or staff member shall submit the Erasmus Mobility Report online at <https://webgate.ec.europa.eu> and the Mobility Certificate.

Every year, lecturers go for both experience exchange and teaching under the Erasmus program. For example study direction educators (R. Zvirgzdiņa, O. Onževs).

Increasingly, lecturers come to Turiba within the framework of the Erasmus exchange program.

ITN has a successful partnership with guest lecturers from Kosovo, who teach a variety of week long study courses once a year.

Students who have studied abroad within the framework of Exchange programmes

Students of the study direction make use of the exchange opportunity to travel abroad; during the reporting period, students of the first level professional higher education program "Computer systems" can avail the opportunity to go to Erasmus internship placements, while students of the professional Bachelor program "Computer systems" can avail mobility for both studies as well as practice.

Appendix includes data on foreign students and teaching staff during the reference period, outgoing and incoming student mobility during the reference period by study program.

5.3. In the event that the study programme entails a traineeship, provide a description of the traineeship options offered to the students, as well as the provision, and work organisation. Specify whether the higher education institution/ college provides assistance in finding traineeships.

IT students have to undergo an internship in a company in the second and last year of studies. Internship ensures that theoretical knowledge and skills acquired in the laboratory are linked to practice gained and help develop a set of competency-based practical skills required for the career of an engineer programmer.

The internship is designed to strengthen the theoretical knowledge acquired and develop practical skills in the profession of a programmer in connection with software development, implementation and maintenance. During internship, the student works in a company and participates in company

projects. The internship is planned for 8, 12, 16 weeks, depending on the level of the study program. During internship, the student acquires the skill to develop a program or software system and to draw up reports in accordance with the rules of project documentation, as well as to publicly defend the results obtained.

Objective and tasks of the course in terms of competences and skills: The aim of the internship is to train students for work in a team of software developers.

Tasks:

- Design and create a user interface.
- Construct and describe algorithms.
- Develop program code from the appropriate algorithm.
- Perform unit testing for the relevant programming code.
- Prepare documentation.

Organisation of independent work and tasks:

- The internship task, which indicates the activities and deadlines to be performed, is formulated by the internship manager in the company.
- The study course is acquired independently, in regular consultation with the practice manager in the company, the practice coordinator at the university, following the instructions of the structural unit for the control of the report development process.

Learning outcomes of the internship:

- Able to design and build a user interface, construct and describe algorithms, write program code, debug programs, perform unit testing and prepare documents.
- Able to present and justify the results achieved, discuss them.
- Strengthen theoretical knowledge of software and / or other ICT solutions development, implementation and maintenance process in accordance with technical documentation and process plan.
- Identify and understand the task, related risks and quality requirements.
- Choose the optimal program, program development tools, programming language according to the technical documentation.
- Summarize, test and analyse software development work results or intermediate results.
- Explore the possibilities of the latest technologies and develop effective solutions to meet needs in cooperation with technology suppliers.
- Collect data, information and materials for the qualification paper.

Results assessment methods.

1. Familiarization and qualification practice are considered to be successfully completed if positive assessment has been received from the practice manager in the company, practice coordinator and practice evaluation commission.
2. The practice report has been defended publicly.

Companies whose main occupation or support solutions are related to software development are selected as possible practice companies: coding, design, software maintenance, implementation and testing, requirements testing, system analysis, preparation of user documentation and software project planning.

Students are offered a list of cooperation partners.

5.4. In the event that joint study programmes are implemented in the study direction, provide the justification of the creation of the joint study programmes and a description and assessment of the selection of the partnering higher education institutions by including information on the principles and the procedures for the creation and implementation of these joint study programmes. In the event that no joint study programmes are implemented in the study direction, provide a description and assessment of the plans of the higher education institution/ college for the creation of such study programmes within the study direction.

(Not applicable)

II - Description of the Study Direction (6. Implementation of the Recommendations Received During the Previous Assessment Procedures)

6.1. Assessment of the fulfilment of the plan regarding the implementation of the recommendations provided by the experts during the previous accreditation of the study direction, as well as the assessment of the impact of the given recommendations on the study quality or the improvement of the study process within the study direction and the relevant study programmes.

Development of the study direction, taking into account the previous accreditation recommendations

The measures taken to comply with the recommendations provided for the direction "Information technologies, computer technology, electronics, telecommunications, computer management and computer science" were evaluated:

Study process

| <i>Recommendation</i> | <i>Measures taken</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>There are too many study courses with 2 CP, providing only superficial insight in many spheres. For example, data networks and communication 2 CP, information conformity and security 2 CP, 2 course papers 2 CP.</p> <p>Currently, the study program in the 1st and 2nd year provides the study course Software Development Fundamentals (1 and 2), which is based on the C ++ programming language. Based on the market situation and trends, the C ++ language is becoming less and less in demand and is losing ground in favour of the Java programming language (which is also an object-oriented language).</p> <p>Restructure the study program in order to reduce the number of study courses per semester by combining consecutive and similar courses, as a result creating 4-6 credit point courses. This has been partially resolved, but there are still several semesters with 7 or 8 courses.</p> <p>Evaluate the possibility to create combined courses instead of two or more 2 CP courses, thus reducing the amount of parallel study work for students.</p> | <p>Study courses were combined from 2 CP to form 4 CP study courses. As, for example, "Data Analysis and Benchmarking" 2 CP and "Big Data" 2 CP, have been combined into a 4 CP study course "Data Analysis and Benchmarking". The 2 CP study course "Introduction to Computer Architecture and Software Engineering" has been combined with the 2 CP study course "Introduction to Computer System" into a 4 CP study course "Introduction to Computer Architecture, Software Engineering and Computer Systems", which also corresponds to the previous 2CP study course "Data Networks and Communication". It should be added that the 2 CP "Course paper1" is based on "Practice" or in other words, the student is able to go through practice and defend the developed solution as a study paper. It should also be added that the 2 CP study course "Information conformity and security" has been combined with the 2 CP study course "IT risk management" into a 4 CP study course "IT security and risk management".</p> <p>The study courses "Software Development Fundamentals 1", "Software Development Fundamentals 2" have been changed to Java programming language and a specialist from "Tieto Latvia" has been recruited in order to be able to ensure the strengthening of programming fundamentals.</p> |

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| There are shortcomings in the content of several courses - e.g. algorithms and complexity, object-oriented programming, etc. | The contents of the courses " <i>Algorithms and Complexity</i> " and " <i>Object Oriented Programming</i> " was appended and updated, and the lecturers for the specific study courses were changed as well. |
| Improvements in course design would be needed to observe the continuity/coherency of content. The course design was improved during licensing, but descriptions of the relevant courses have not yet been submitted | After licensing, the planning of courses has been improved and their succession is in accordance with the study program " <i>Computer Systems</i> ". The study course descriptions (syllabi) have been updated. |
| Modern software development trends include skills in big data technologies, software development in Microsoft .NET environment, test automation and DevOps methodology. The inclusion of the mentioned study courses in the study program would allow to better educate and train graduates for the needs of the field and would make the study program more attractive to potential students. The study program lacks differences from other similar study programs. | The study courses " <i>Software Development Fundamentals 3</i> " and " <i>Software Development Fundamentals 4</i> " were updated with the inclusion of <i>Microsoft Visual Studio C #</i> programming language training. The <i>DevOps</i> methodology is included in the study course "Course paper 1" as well. The relevant study courses in the study program enable educate and train graduates to meet the needs of the sector. Thus it is ensured that the direction meets the modern software development trends. |
| To restructure the study program in order to lay the most stable foundations for programming in the first 3 semesters, so that they can be reliably relied upon to specialize in further study years. This means focusing on learning the basics of programming engineering and strengthening study courses that meet the requirements of the profession of programming engineer, focused on laying a solid foundation in programming with as many practical classes as possible, which provides the ability to code - this remark was addressed during licensing, but no appropriate course descriptions had been developed. | The corresponding study course descriptions have been prepared for 2020/2021, which strengthens the basics of programming. |
| There is no financial calculation for the minimum number of students. | There is no detailed financial calculation for the minimum number of students, but a financial calculation for the minimum number of students is given. |
| The business professional competence development module is spread over several study courses and is difficult to trace. | Study courses " <i>Civil and Environmental Protection</i> ", " <i>Labor Law</i> ", " <i>Business</i> " and " <i>Design Thinking in the IT Industry</i> ". |
| Descriptions of study courses are too broad - with redundant (including too general) and repetitive information, as well as superficially designed. Make course description information more compact and easier to understand (for example, by moving part of the information to a presentation course in e-learning materials); | The descriptions are created in accordance with the regulations of the Cabinet of Ministers. |
| To evaluate shifting the database course in the final semester, as it comes after practice and runs parallel to the qualification paper. | The qualification paper comes after the database study course. |
| Evaluate the possibility of including software engineering in study courses, including requirements engineering, software design. | Requirements engineering and software design is realized in the study course "Course paper". |

Research work:

| <i>Recommendation</i> | <i>Measures taken</i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collaborate more with other universities, including foreign higher education institutions. Unclear perspectives of cooperation with other Latvian and foreign universities. | ITN action plan 2021/2022 foresees to develop cooperation with other higher education institutions, including those abroad, by agreeing on exchange opportunities for students and lecturers. Lecturers and students are encouraged to participate in the Erasmus+ program. |

Student involvement

| <i>Recommendation</i> | <i>Measures taken</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| There is no choice of professional courses | Most of the B block courses are proposed by the Student Council and students, who influence the study development process at the beginning of the new academic year. There have been no substantiated complaints or suggestions to change any B block or develop new C block study courses. |
| To focus the content of general study courses to topics relevant to the field - for example, economics and business in the field of IT, finance and accounting in connection with IT projects | The study courses " <i>Finance and Accounting</i> " and " <i>IT regulatory framework and copyright</i> " are being updated and implemented, with a focus on IT projects. |
| To improve the content of professional courses in accordance with the professional standard of a programming engineer and to define the competences acquired in the course in accordance with the professional standard so that altogether the program ensures all the requirements defined in the professional standard are met and observes the continuity of courses | The succession of courses has been reviewed and the study program has been restructured. |
| Maintaining communication with students and teachers. | Students know the consultation hours of both the head of the department and the dean, and students address their questions outside consultation hours if necessary as well. Therefore separate guidelines are not necessary but it is important to give them additional information. Learning outcomes are included in course descriptions, additional work is being carried out with academic staff to ensure that they communicate not only learning outcomes of the course but those of the programme as a whole. Two ITN online sessions have already taken place via " <i>Webex</i> ". |

Quality

| <i>Recommendation</i> | <i>Measures taken</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Involve students in creating and improving the content of the program | Twice a year, representatives from the Student Council come up with new ideas to improve the content of the study program. When communicating with students, the Student Council explores relevant solutions, recommendations and improvement opportunities in the study program " <i>Computer Systems</i> ". |
| Evaluate the qualification of lecturers in accordance with the study course in order to ensure full-fledged provision of the competences defined in the study course both in the acquisition of theoretical knowledge and in practical application | A mechanism for evaluating the qualification of lecturers is being developed in order to be able to determine their theoretical and practical knowledge. |
| Restructure the study program with the idea of organising the second part of the study process before accreditation so that students can choose the field in which they want to specialize. In the long run, there are too many small 2 credit point courses in the program, which are in essence core courses (but on good topics). They need to be transformed into at least 4 CP courses in the restricted elective block (Block B), which would provide in-depth understanding and competences necessary for the field. | The study program has been restructured. |
| insufficient experience in implementing the new direction study program; | It should be noted that Turība University celebrated its 25th anniversary recently and has five branches in the Republic of Latvia. The University has been functioning successfully in a goal oriented manner in Latvia and aspires to be largest private university in the Baltic States. It is to be noted that the university has experience and it is oriented towards development. To improve the experience, the first level professional higher education study program " <i>Computer Systems</i> " license was obtained. |

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| It is not clear how the course papers are organized - the conversation with the lecturers did not create confidence in experts that practical work and their expected results will be provided at a sufficient level during the study process. | The organization of the study process in the relevant study courses is described in the document <i>"Requirements"</i> drafted the relevant lecturer. This document lists each lesson and describes in detail whether they are lectures or workshops or a seminar, the specific topic the lesson covers, the relevant date and its learning outcomes. These documents are checked and, if necessary, corrected according to the recommendations of the director of the study program. |
| Improve material and technical base and infrastructure. Computer classrooms have obsolete computers that do not meet the quality for implementation of the study program. Develop a plan for the improvement of material and technical provision in accordance with the needs of the program (computers, including the purchase of modern computers, indicating their planned specifications, updating of library books and electronic resources listing items to be purchased that are not currently available at BAT or RTU (contract) including software licenses. Draw up a material and technical base development plan during the licensing period. | The material and technical base and infrastructure was improved during the academic year 2019/2020: complete renovation of four computer classrooms (30 workstations in each) and four lecture halls (with 16-22 work stations). All of these rooms are equipped with air conditioning and new blinds. This includes 98 new computer desks and 98 new computer chairs in computer classrooms and 12 new whiteboards in 9 lecture halls. Of these, four new lecture halls were equipped with new furniture. The improved infrastructure can be seen in building C. A computer class was equipped with new hardware for the academic year 2019/2020. These included 23 new computers with respective specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and 23 new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". |
| Turiba library resources related to the sector are very outdated. "..., the library databases do not include ScienceDirect, Scopus or the Web of Science, which provides access to the latest research in the field of IT." | Turiba library resources for the study program <i>"Computer Systems"</i> are supplemented/updated before the beginning of each academic year. At present, the study programmes <i>"Fundamentals of Software Development 1, Java"</i> , <i>"Design Thinking in the IT Industry"</i> , <i>"Mathematical Analysis"</i> , <i>"Introduction to Computer Architecture, Software Engineering and Computer Systems"</i> have been supplemented with 90 new books. For the spring semester, new textbooks are being purchased for the study courses <i>"Algorithms, Data Structures and Complexity"</i> , <i>"Object Oriented Programming"</i> , <i>"Algorithms, Data Structures and Complexity"</i> , <i>"Study Work 1"</i> , <i>"Database Management Systems 1"</i> , <i>"Database Management Systems 2"</i> , <i>"Software Automation Testing and Quality"</i> , <i>"Data Analysis and Benchmarks"</i> as well, altogether 38 new books in total. Also, at the beginning of 2019, subscription to the online database <i>"Proquest Computing Database"</i> was purchased by the Turiba library - a scientific full-text database in computer science. Also worth noting are subscriptions to <i>"Computer Arts"</i> and <i>"Web Designer Magazine"</i> . Students have access to <i>"Scopus"</i> database as well. |
| Agile software development methods are not adequately covered in the study program. | The study courses <i>"Fundamentals of Software Development 3"</i> , <i>"Fundamentals of Software Development 4"</i> and <i>"Course paper 1"</i> have been updated in order to ensure inclusion of software development methods. |
| Develop a mechanism for the inclusion of study courses organized by professional companies in Block B of the study program. | Talks are ongoing with the leading Latvian ICT company <i>"Accenture Latvia"</i> to implement this recommendation. A unified study course is being developed as a part of Block B study courses in cooperation with <i>"Accenture Latvia"</i> , which will enhance the students' insight into existing ICT projects at the global level. The study course <i>"Multimedia data processing"</i> has been replaced by a new study course <i>"Enterprise continuous application software integration"</i> , which is also suggested by the Latvian ICT company <i>"Accenture Latvia"</i> . |
| Insufficiently clear feedback of quality activities and impact on quality improvement. | At the end of each semester, students give feedback on each study course. The ESG approach is used to ensure quality. |
| Low number of permanent elected academic staff, especially among academic staff teaching special courses. Several lecturers who are not involved in scientific activity. Stimulate the inclusion of educators in the elected staff. | Several lecturers teaching special study courses have been elected during the academic year 2020/2021. |
| Align the requirements of the study agreement so that the obligations of the parties are equal. | The proposal will be considered during the next Turiba Senate meeting. |

Consider extending the existing agreement on cooperation in this study direction to include this study program.

A new cooperation agreement has been signed with "Accenture Latvia" regarding the new study program first level professional higher education study program "Computer Systems"

Proposals for the improvement of the study direction

- Modernize the library resources in the relevant study direction;
- Gather recommendations from the representatives of the society in order to qualitatively form the structural unit of the future faculty;
- Improve the mechanism of lecturers' qualification assessment in order to be able to determine theoretical and practical knowledge;
- Attract foreign lecturers to the study direction in order to increase the suitability and prestige of studies.
- Regularly evaluate the conformity of study courses with the requirements of the labour market;
- To improve the methodology of practical training.
- Further develop cooperation with Latvian companies by involving them in the implementation of the Block B study courses;
- Promote the publishing of articles/papers in scientific journals and further professional qualification of the lecturers;
- To carry out research on topics relevant to the industry or a specific enterprise, promoting student involvement in research.

6.2. Implementation of the recommendations given by the experts during the evaluation of the changes to the relevant study programmes in the respective study direction or licensed study programmes over the reporting period or recommendations received during the procedure for the inclusion of the study programme in the accreditation form of the study direction (if applicable).

The study program includes the following program:

- First level professional higher education study programme "Computer systems";
- Professional bachelor study programme "Computer Systems"

SWOT analysis

The weaknesses and threats to the study direction have been assessed, as well as the following improvements have been made:

| <i>Weaknesses of the study discipline:</i> | <i>Measures taken</i> |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Opportunities for exchange of students and lecturers with other Latvian and foreign higher education institutions; | Collaboration is being established with the "University of Central Lancashire", "Aachen University of Applied Sciences (FH AACHEN)", "Izmir Bakircay University Department of Management Information Systems (MIS)" and "Universite Catholique de Lille" on a double degree agreement and students would be able to obtain a double degree. |

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| Insufficient scientific cooperation with foreign study programs and scientific research institutions in computer science; | Scientific cooperation with foreign study programs and scientific research institutions in computer science has been organized through negotiations in 2019/2020. |
| Insufficient number of elected academic personnel who are permanent staff members of Turība, | During the development stage, this number is increasing every year and the existing teaching staff with master's degrees are already pursuing doctoral degrees. |
| Lack of strong research traditions at Turība, | To enhance these traditions, new faculty members have been elected, strengthening the university's research traditions. The annual Turība international BAT conference organized and planned for 2020/2021 will be dedicated to the IT study direction as well. |
| <i>Threats to the study discipline:</i> | <i>Measures taken</i> |
| Insufficient research work by lecturers resulting in negative remarks from experts during the accreditation of the study direction, | Each year, this number is increasing and the existing teaching staff with master's degrees are already pursuing doctoral degrees. As everyone knows, it takes at least 4-5 years to successfully complete and gain a doctoral degree. The dynamics is positive, in the long run this growth will change faster. Existing lecturers are interested in obtaining a doctoral degree in the near future. They are encouraged and motivated to write and publish scientific articles in SCOPUS databases with Turība requisites. Lecturers are motivated with financial incentives to participate in scientific conferences. |
| Very low salaries for educators making it difficult to attract well known researchers and IT sector professionals. | Three new teachers are hired during the academic year 2020/2021: Pēteris Arājs, Maksims Žigunovs and Antons Kolodinskis, IT industry professionals with more than 15 years of experience thereby strengthening the IT study direction. The salary has also been increased up to 30.00 € / academic hour to motivate IT industry professionals. |
| Problem of substituting teaching staff in certain study courses; | The problem of substitution of teaching staff is eliminated thanks to the abilities, competencies and skills of several teachers who are able to replace other teaching staff. |
| Insufficiently used opportunities for attracting funding for the performance of scientific research and improvement of material and technical base; | The computer class was equipped with new hardware in 2019/2020, including 23 new computers with the relevant specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and 23 new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". |
| Insufficient knowledge of applicants when taking the entrance examinations in the study program. | The possibility of organizing preparatory courses has been evaluated. Currently, the number of entrants is not enough to organize such preparatory courses. |

Management, lecturers

The lecturers of the study field are reviewed every year and replaced if necessary. During the reporting period new educators were attracted: Pēteris Arājs, Maksims Žigunovs and Antons Kolodinskis.

1. External relations
2. Cooperation agreements have been concluded with "Accenture's Latvian Branch", "Zabbix SIA" and "SIA Envirotech", etc.
3. A visiting lecturer from Berat Ujkani from *Universum College*, Pristina, Kosovo for the study course "Algorithms, data structures and complexity".

Development of the study direction, taking into account the previous accreditation recommendations

The measures taken to comply with the recommendations provided for the direction "Information technologies, computer technology, electronics, telecommunications, computer management and computer science" were evaluated:

Study process

| Recommendation | Measures taken |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>There are too many study courses with 2 CP, providing only superficial insight in many spheres. For example, data networks and communication 2 CP, information conformity and security 2 CP, 2 course papers 2 CP.</p> <p>Currently, the study program in the 1st and 2nd year provides the study course Software Development Fundamentals (1 and 2), which is based on the C++ programming language. Based on the market situation and trends, the C++ language is becoming less and less in demand and is losing ground in favour of the Java programming language (which is also an object-oriented language).</p> <p>Restructure the study program in order to reduce the number of study courses per semester by combining consecutive and similar courses, as a result creating 4-6 credit point courses. This has been partially resolved, but there are still several semesters with 7 or 8 courses.</p> <p>Evaluate the possibility to create combined courses instead of two or more 2 CP courses, thus reducing the amount of parallel study work for students.</p> | <p>Study courses were combined from 2 CP to form 4 CP study courses. As, for example, "Data Analysis and Benchmarking" 2 CP and "Big Data" 2 CP, have been combined into a 4 CP study course "Data Analysis and Benchmarking". The 2 CP study course "Introduction to Computer Architecture and Software Engineering" has been combined with the 2 CP study course "Introduction to Computer System" into a 4 CP study course "Introduction to Computer Architecture, Software Engineering and Computer Systems", which also corresponds to the previous 2CP study course "Data Networks and Communication". It should be added that the 2 CP "Course paper 1" is based on "Practice" or in other words, the student is able to go through practice and defend the developed solution as a study paper. It should also be added that the 2 CP study course "Information conformity and security" has been combined with the 2 CP study course "IT risk management" into a 4 CP study course "IT security and risk management".</p> <p>The study courses "Software Development Fundamentals 1", "Software Development Fundamentals 2" have been changed to Java programming language and a specialist from "Tieto Latvia" has been recruited in order to be able to ensure the strengthening of programming fundamentals.</p> |
| <p>There are shortcomings in the content of several courses - e.g. algorithms and complexity, object-oriented programming, etc.</p> | <p>The contents of the courses "Algorithms and Complexity" and "Object Oriented Programming" was appended and updated, and the lecturers for the specific study courses were changed as well.</p> |
| <p>Improvements in course design would be needed to observe the continuity/coherency of content. The course design was improved during licensing, but descriptions of the relevant courses have not yet been submitted</p> | <p>After licensing, the planning of courses has been improved and their succession is in accordance with the study program "Computer Systems". The study course descriptions (syllabi) have been updated.</p> |
| <p>Modern software development trends include skills in big data technologies, software development in Microsoft .NET environment, test automation and DevOps methodology. The inclusion of the mentioned study courses in the study program would allow to better educate and train graduates for the needs of the field and would make the study program more attractive to potential students.</p> <p>The study program lacks differences from other similar study programs.</p> | <p>The study courses "Software Development Fundamentals 3" and "Software Development Fundamentals 4" were updated with the inclusion of <i>Microsoft Visual Studio C#</i> programming language training. The <i>DevOps</i> methodology is included in the study course "Course paper 1" as well. The relevant study courses in the study program enable educate and train graduates to meet the needs of the sector. Thus it is ensured that the direction meets the modern software development trends.</p> |
| <p>To restructure the study program in order to lay the most stable foundations for programming in the first 3 semesters, so that they can be reliably relied upon to specialize in further study years. This means focusing on learning the basics of programming engineering and strengthening study courses that meet the requirements of the profession of programming engineer, focused on laying a solid foundation in programming with as many practical classes as possible, which provides the ability to code - this remark was addressed during licensing, but no appropriate course descriptions had been developed.</p> | <p>The corresponding study course descriptions have been prepared for 2020/2021, which strengthens the basics of programming.</p> |

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| There is no financial calculation for the minimum number of students. | There is no detailed financial calculation for the minimum number of students, but a financial calculation for the minimum number of students is given. |
| The business professional competence development module is spread over several study courses and is difficult to trace. | Study courses "Civil and Environmental Protection", "Labor Law", "Business" and "Design Thinking in the IT Industry". |
| Descriptions of study courses are too broad - with redundant (including too general) and repetitive information, as well as superficially designed. Make course description information more compact and easier to understand (for example, by moving part of the information to a presentation course in e-learning materials); | The descriptions are created in accordance with the regulations of the Cabinet of Ministers. |
| To evaluate shifting the database course in the final semester, as it comes after practice and runs parallel to the qualification paper. | The qualification paper comes after the database study course. |
| Evaluate the possibility of including software engineering in study courses, including requirements engineering, software design. | Requirements engineering and software design is realized in the study course "Course paper". |

Research work:

| <i>Recommendation</i> | <i>Measures taken</i> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collaborate more with other universities, including foreign higher education institutions. Unclear perspectives of cooperation with other Latvian and foreign universities. | ITN action plan 2021/2022 foresees to develop cooperation with other higher education institutions, including those abroad, by agreeing on exchange opportunities for students and lecturers. Lecturers and students are encouraged to participate in the Erasmus+ program. |

Student involvement

| <i>Recommendation</i> | <i>Measures taken</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| There is no choice of professional courses | Most of the B block courses are proposed by the Student Council and students, who influence the study development process at the beginning of the new academic year. There have been no substantiated complaints or suggestions to change any B block or develop new C block study courses. |
| To focus the content of general study courses to topics relevant to the field - for example, economics and business in the field of IT, finance and accounting in connection with IT projects | The study courses "Finance and Accounting" and "IT regulatory framework and copyright" are being updated and implemented, with a focus on IT projects. |
| To improve the content of professional courses in accordance with the professional standard of a programming engineer and to define the competences acquired in the course in accordance with the professional standard so that altogether the program ensures all the requirements defined in the professional standard are met and observes the continuity of courses | The succession of courses has been reviewed and the study program has been restructured. |
| Maintaining communication with students and teachers. | Students know the consultation hours of both the head of the department and the dean, and students address their questions outside consultation hours if necessary as well. Therefore separate guidelines are not necessary but it is important to give them additional information. Learning outcomes are included in course descriptions, additional work is being carried out with academic staff to ensure that they communicate not only learning outcomes of the course but those of the programme as a whole. Two ITN online sessions have already taken place via "Webex". |

Quality

| <i>Recommendation</i> | <i>Measures taken</i> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Involve students in creating and improving the content of the program | Twice a year, representatives from the Student Council come up with new ideas to improve the content of the study program. When communicating with students, the Student Council explores relevant solutions, recommendations and improvement opportunities in the study program "Computer Systems". |
| Evaluate the qualification of lecturers in accordance with the study course in order to ensure full-fledged provision of the competences defined in the study course both in the acquisition of theoretical knowledge and in practical application | A mechanism for evaluating the qualification of lecturers is being developed in order to be able to determine their theoretical and practical knowledge. |
| Restructure the study program with the idea of organising the second part of the study process before accreditation so that students can choose the field in which they want to specialize. In the long run, there are too many small 2 credit point courses in the program, which are in essence core courses (but on good topics). They need to be transformed into at least 4 CP courses in the restricted elective block (Block B), which would provide in-depth understanding and competences necessary for the field. | The study program has been restructured. |
| Insufficient experience in implementing the new direction study program; | It should be noted that Turība University celebrated its 25th anniversary recently and has five branches in the Republic of Latvia. The University has been functioning successfully in a goal oriented manner in Latvia and aspires to be largest private university in the Baltic States. It is to be noted that the university has experience and it is oriented towards development. To improve the experience, the first level professional higher education study program "Computer Systems" license was obtained. |
| It is not clear how the course papers are organized - the conversation with the lecturers did not create confidence in experts that practical work and their expected results will be provided at a sufficient level during the study process. | The organization of the study process in the relevant study courses is described in the document "Requirements" drafted the relevant lecturer. This document lists each lesson and describes in detail whether they are lectures or workshops or a seminar, the specific topic the lesson covers, the relevant date and its learning outcomes. These documents are checked and, if necessary, corrected according to the recommendations of the director of the study program. |
| Improve material and technical base and infrastructure. Computer classrooms have obsolete computers that do not meet the quality for implementation of the study program. Develop a plan for the improvement of material and technical provision in accordance with the needs of the program (computers, including the purchase of modern computers, indicating their planned specifications, updating of library books and electronic resources listing items to be purchased that are not currently available at BAT or RTU (contract) including software licenses. Draw up a material and technical base development plan during the licensing period. | The material and technical base and infrastructure was improved during the academic year 2019/2020: complete renovation of four computer classrooms (30 workstations in each) and four lecture halls (with 16-22 work stations). All of these rooms are equipped with air conditioning and new blinds. This includes 98 new computer desks and 98 new computer chairs in computer classrooms and 12 new whiteboards in 9 lecture halls. Of these, four new lecture halls were equipped with new furniture. The improved infrastructure can be seen in building C. A computer class was equipped with new hardware for the academic year 2019/2020. These included 23 new computers with respective specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". |

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| <p>Turiba library resources related to the sector are very outdated.</p> <p>"..., the library databases do not include ScienceDirect, Scopus or the Web of Science, which provides access to the latest research in the field of IT."</p> | <p>Turiba library resources for the study program "Computer Systems" are supplemented/updated before the beginning of each academic year. At present, the study programmes "Fundamentals of Software Development 1, Java", "Design Thinking in the IT Industry", "Mathematical Analysis", "Introduction to Computer Architecture, Software Engineering and Computer Systems" have been supplemented with 90 new books. For the spring semester, new textbooks are being purchased for the study courses "Algorithms, Data Structures and Complexity", "Object Oriented Programming", "Algorithms, Data Structures and Complexity", "Study Work 1", "Database Management Systems 1", "Database Management Systems 2", "Software Automation Testing and Quality", "Data Analysis and Benchmarks" as well, altogether 38 new books in total. Also, at the beginning of 2019, subscription to the online database "Proquest Computing Database" was purchased by the Turiba library - a scientific full-text database in computer science. Also worth noting are subscriptions to "Computer Arts" and "Web Designer Magazine".</p> |
| <p>Agile software development methods are not adequately covered in the study program.</p> | <p>The study courses "Fundamentals of Software Development 3", "Fundamentals of Software Development 4" and "Course paper 1" have been updated in order to ensure inclusion of software development methods.</p> |
| <p>Develop a mechanism for the inclusion of study courses organized by professional companies in Block B of the study program.</p> | <p>Talks are ongoing with the leading Latvian ICT company "Accenture Latvia" to implement this recommendation. A unified study course is being developed as a part of Block B study courses in cooperation with "Accenture Latvia", which will enhance the students' insight into existing ICT projects at the global level. The study course "Multimedia data processing" has been replaced by a new study course "Enterprise continuous application software integration", which is also suggested by the Latvian ICT company "Accenture Latvia".</p> |
| <p>Insufficiently clear feedback of quality activities and impact on quality improvement.</p> | <p>At the end of each semester, students give feedback on each study course. The ESG approach is used to ensure quality.</p> |
| <p>Low number of permanent elected academic staff, especially among academic staff teaching special courses. Several lecturers who are not involved in scientific activity. Stimulate the inclusion of educators in the elected staff.</p> | <p>Several lecturers teaching special study courses have been elected during the academic year 2020/2021.</p> |
| <p>Align the requirements of the study agreement so that the obligations of the parties are equal.</p> | <p>The proposal will be considered during the next Turiba Senate meeting.</p> |
| <p>Consider extending the existing agreement on cooperation in this study direction to include this study program.</p> | <p>A new cooperation agreement has been signed with "Accenture Latvia" regarding the new study program first level professional higher education study program "Computer Systems"</p> |

Proposals for the improvement of the study direction

- Modernize the library resources in the relevant study direction;
- Gather recommendations from the representatives of the society in order to qualitatively form the structural unit of the future faculty;
- Improve the mechanism of lecturers' qualification assessment in order to be able to determine theoretical and practical knowledge;
- Attract foreign lecturers to the study direction in order to increase the suitability and prestige of studies.
- Regularly evaluate the conformity of study courses with the requirements of the labour market;
- To improve the methodology of practical training.
- Further develop cooperation with Latvian companies by involving them in the implementation

of the Block B study courses;

- Promote the publishing of articles/papers in scientific journals and further professional qualification of the lecturers;
- To carry out research on topics relevant to the industry or a specific enterprise, promoting student involvement in research.

Annexes

| I. Information on the Higher Education Institution/ College | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|
| List of the governing regulatory enactments and regulations of the higher education institution/ college | normative dokumenti_LV_ENG.docx | normative dokumenti_LV_ENG.docx |
| Information on the implementation of the study direction in the branches of the higher education institution/ college (if applicable) | | |
| Management structure of the higher education institution/ college | BAT_organizatoriskas_strukturas_shema_D1_39.vers_ENG.pdf | BAT_organizatoriskas_strukturas_shema_D1_39.vers.pdf |
| II. Description of the Study Direction - 1. Management of the Study Direction | | |
| Plan for the development of the study direction (if applicable) | 1_Studiju virziena attīstības plāns_en.docx | 1_Studiju virziena attīstības plāns_lv.docx |
| Management structure of the study direction | 2_Pārvaldības struktūra_en.docx | 2_Pārvaldības struktūra_lv.docx |
| II. Description of the Study Direction - 3. Resources and Provision of the Study Direction | | |
| Basic information on the teaching staff involved in the implementation of the study direction | 4_1_IT_virziena_dacetāji_en.xlsx | 4_1_IT_virziena_dacetāji_lv.xlsx |
| Biographies of the teaching staff members (in Europass Curriculum Vitae format) | 4_2_IT_direction_CV_EN .pdf | 4_2_IT_direction_CV_LV .pdf |
| Summary of the statistical data on the incoming and outgoing mobility of the teaching staff over the reporting period | 4_3_Mācībspēku_mobilitāte_en.docx | 4_3_Mācībspēku_mobilitāte.docx |
| II. Description of the Study Direction - 4. Scientific Research and Artistic Creation | | |
| List of the publications, patents, and artistic creations of the teaching staff over the reporting period | 6_Mācībspēku_publicāciju_saraksts_en.docx | 6_Mācībspēku_publicāciju_saraksts.docx |
| II. Description of the Study Direction - 5. Cooperation and Internationalisation | | |
| List of cooperation agreements | 7_Sadarbības līgumu saraksts_en.docx | 7_Sadarbības līgumu saraksts.docx |
| Statistical data on the teaching staff and the students from abroad | 8_Ārvalstu studējošie un mācību spēki_en .docx | 8_Ārvalstu studējošie un mācību spēki .docx |
| Statistical data on the mobility of students (by specifying the study programmes) | 9_Studējošo mobilitāte_en.docx | 9_Studējošo mobilitāte.docx |
| Description of the organisation of the traineeship of the students | 10_Prakses organizācijas apraksts_eng.docx | 10_Prakses organizācijas apraksts.docx |
| Information on the agreements and other documents confirming the traineeship of the students in companies | 11_Informācija par prakses nodrošināšanu_EN .pdf | 11_Informācija par prakses nodrošināšanu_LV .pdf |
| II. Description of the Study Direction - 6. Implementation of the Recommendations Received During the Previous Assessment Procedures | | |
| Overview of the implementation of the provided recommendations | 12_Rekomendāciju izpildes pārskats_EN.docx | 12_Rekomendāciju izpildes pārskats_LV.docx |
| Description of the Study Programme - Other mandatory attachments | | |
| Confirmation signed by the rector, director or the head of the study programme or the study direction of the higher education institution/ college which states that the official language proficiency of the teaching staff involved in the implementation of the relevant study programmes of the study direction complies with the regulations on the level of the official language knowledge and the procedures for testing official language proficiency for performing professional duties and office duties. | 13_Apliecinājums par valsts valodas zināšanu_EN.edoc | 13_Apliecinājums par valsts valodas zināšanu_LV.edoc |
| III. Description of the Study Programme - 1. Indicators Describing the Study Programme | | |
| Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table) | | |
| Statistics on the students over the reporting period | | |
| III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof | | |
| Compliance of the study programme with the State Education Standard | | |
| Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable) | | |
| Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable) | | |
| Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme | | |
| Curriculum of the study programme (for each type and form of the implementation of the study programme) | | |
| Descriptions of the study courses/ modules | | |
| Description of the Study Direction - Other mandatory attachments | | |
| Sample of the diploma to be issued for the acquisition of the study programme. | | |
| Description of the Study Programme - Other mandatory attachments | | |
| Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued | | |

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| Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme | | |
| Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language. | | |
| If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree. | | |
| If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education | | |
| Sample (or samples) of the study agreement | | |
| If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education. | | |
| Description of the Study Direction - Other mandatory attachments | | |
| Electronically signed application form for assessment of a study direction | 14_AIC_AIKA_DS_novertesana_EN.edoc | 14_AIC_AIKA_DS_novertesana_LV.edoc |

Other annexes

| Name of document | Document |
|----------------------------------------------------|--------------------------------------------------------|
| Izmaksas uz vienu studējošo | 3_IT virziena_izmaksas_lv.xlsx |
| Costs per student | 3_IT virziena_izmaksas_en.xlsx |
| BAT prof.bak. Datorsistēmas ekspertu atzinums 2018 | BAT_prof.bak._Datorsistēmas_ekspertu_atzinums_2018.pdf |
| BAT 1.līmeņa Datorsistēmas ekspertu atzinums 2020 | BAT_1.līm._Datorsistēmas_ekspertu_atzinums_2020.pdf |
| Kvalitātes politika_LV | Kvalitates_politika_LV.docx |
| Quality policy | Quality policy.docx |

Computer Systems (42484)

| | |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Study field | <i>Information Technology, Computer Hardware, Electronics, Telecommunications, Computer Management, and Computer Science</i> |
| ProcedureStudyProgram.Name | <i>Computer Systems</i> |
| Education classification code | <i>42484</i> |
| Type of the study programme | <i>Professional bachelor study programme</i> |
| Name of the study programme director | <i>Jānis</i> |
| Surname of the study programme director | <i>Pekša</i> |
| E-mail of the study programme director | <i>Janis.Peksa@turiba.lv</i> |
| Title of the study programme director | <i>Mg.sc.ing., Mg.oec.</i> |
| Phone of the study programme director | <i>28610710</i> |
| Goal of the study programme | <i>To prepare professional specialists for starting independent work in the field of informatics with knowledge of computer systems architecture, software engineering, systems analysis, basic database technologies and the basics of artificial intelligence. As well as specialists who are able to demonstrate systemic thinking and system approach in a software development project, performing various roles and observing the professional standards and professional ethics of an IT programming engineer. To prepare students to conduct scientific research based on experiments, modeling and simulation. As well as to prepare for continuing studies at the level of professional master's studies.</i> |
| Tasks of the study programme | <ul style="list-style-type: none"> - <i>To provide an opportunity for students to successfully master the study program and obtain a professional bachelor's degree in computer systems and the corresponding professional, academic, scientific and intellectual competencies in the allotted time.</i> - <i>To develop abilities purposefully, to deepen one's knowledge in computer science and to promote the use of this knowledge in the development of a diploma thesis and professional activity.</i> - <i>To acquire knowledge and skills about computer science theories and their application in practice.</i> - <i>To develop students' abilities to work with various software products, systems and models in practice.</i> - <i>To comprehensively promote independent scientific research in computer science.</i> - <i>Be able to solve problems related to reducing information security in software.</i> - <i>To improve students' professional foreign language skills.</i> - <i>To acquaint students with IT standards, professional ethics and professional psychology.</i> - <i>To promote participation in the scientific research process by motivating further education at the master's level.</i> |

| | |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Results of the study programme | <p><i>Learning outcomes (knowledge, skills and competences to be acquired):</i></p> <ul style="list-style-type: none"> - Professionally trained and academically educated programming engineer according to (Professional standard of Software Engineer (Professional code - 2512 02)) - The graduate's training meets the requirements for the field of ITC, in accordance with the standard of the programming profession and is in accordance with the LZP Science branches and sub-branches annotation No. 5, corresponds to the sixth level (6LKI) and the fifth level of professional qualification (5KKL) of the Latvian qualification introduction structure. - Able to apply mathematical and algorithmic principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications. - Able to design, apply and develop software of various levels of complexity to ensure the operation of simple and complex systems. - Able to apply computer skills and mathematics, according to the requirements of a programming engineer. - Able to critically analyze the problem, identify and determine the requirements of the application of computing techniques to a specific situation. - Able to design, implement and evaluate computer (computer) based systems, processes, components or software codes. - Able to effectively integrate and work in a team to achieve common goals. - Is able to apply current techniques, skills and tools required for practical work in computer science. - Able to use software development tools and environments. - Able to implement, test and maintain software. - Able to create, encode and debug programs. - Able to perform system analysis. - Able to participate in project development, management, planning and coordination of the working group. - Able to use IT industry standards. - Able to use professional terminology. - Able to develop learning skills, plan their working time, which is necessary for further research with a high level of independence. |
| Final examination upon the completion of the study programme | State examination - Bachelor thesis |

Study programme forms

Full time studies - 4 years - english

| | |
|------------------------|--------------------------|
| Study type and form | <i>Full time studies</i> |
| Duration in full years | <i>4</i> |
| Duration in month | <i>0</i> |
| Language | <i>english</i> |
| Amount (CP) | <i>160</i> |

| | |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Admission requirements (in English) | <p><i>Previous Education - secondary education. Admission to the study programs "Computer Systems" takes place on a competitive basis on the basis of centralized examination in the following subjects: Latvian, English and Mathematics, except persons who have completed secondary education before 2004, persons who have completed secondary education abroad or persons with special needs. Benefit is given to winners of Mathematics, Physics or Informatics Olympiad. In the case of an equal points, preference is given to the applicant who has concluded a contract with the University (TU) earlier. Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in basic study programmes except for the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: Latvian and Foreign languages (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: English and Mathematics. The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Persons who have completed secondary education abroad shall be enrolled in basic study programmes based on the assessments recorded in the document certifying secondary education in the study subjects – Native language in the country where the persons completed secondary education and foreign language (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Foreign applicants who wish to study in the study programs "Computer Systems" shall appear for a Mathematics test along with an English language test. Applicants who receive 60-100% of the total points in mathematics can be enrolled in the study programs "Computer Systems".</i></p> |
| Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english) | <i>Professional Bachelor's Degree in Computer Systems</i> |
| Qualification to be obtained (in english) | <i>Software Engineer</i> |

Places of implementation

| Place name | City | Address |
|-------------------|------|-------------------------------------------------------|
| Turība University | RĪGA | GRAUDU IELA 68, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058 |

III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

Changed: State examination - Diploma project to Bachelor thesis

| | | |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------|
| Title of the study programme | Professional bachelor study programme "Computer Systems" | |
| Study programme code according to Latvian education classification: | 42484 | |
| Type of study programme and level | Professional bachelor study program | |
| Qualification level awarded (NQF/EQF) | 6 | |
| Profession code in the profession classifications | Software Engineer (code 2512 02) | |
| Scope of the study programme (CP, recommended ECTS) | 160 CP (240 ECTS) | |
| Form, Type and Duration of Implementation (Please indicate in months if it is not full study years) and language of instruction | | |
| Full time studies | Four years | English |
| Place of Implementation | Turiba University, Graudu street 68, LV-1058. | |
| Study programme director: | Jānis Pekša, Mg.sc.ing., Mg.oec., 28610710, janis.Peksa@turiba.lv | |

| | |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enrolment requirements | <p>Persons with secondary education can apply for the study program "Computer Systems". Enrolment to the program takes place through a competition based on the results of centralized examinations in Mathematics, Latvian and English. Entrance tests in mathematics and English are currently being developed, refer to enrolment regulations in the appendix.</p> <p>For persons with special needs and foreign persons: final marks in a certificate or diploma, or a state examination, or a test in computer science or programming, algebra or mathematics, physics or natural sciences.</p> |
| Degree, professional qualification or degree and professional qualification awarded | <p>Degree to be awarded - professional bachelor's degree in "Computer Systems"</p> <p>Professional qualification - Software engineer</p> |
| Study programme goals: | <p>To educate professional specialists for independent work in the field of information technology with knowledge of computer system architecture, software engineering, system analysis, basic database technologies and the basics of artificial intelligence.</p> <p>To educate professionals who are able to demonstrate systemic thinking and systemic approach to software application development projects, playing different roles and taking into account the IT standards and professional ethics of an IT engineer. To educate students to carry out scientific research based on experimentation, modelling and simulation. To educate students for further qualification and continuation of studies in professional Master's level study programmes.</p> |

Study programme tasks

To provide an opportunity for students to successfully master the study program and obtain a bachelor's degree in computer systems and the corresponding professional, academic, scientific and intellectual competences.

To develop abilities to strengthen knowledge of computer sciences in a goal oriented manner and to promote the use of this knowledge in the development of one's bachelor thesis and professional activities.

To acquire knowledge and skills of computer science theories and their application in practice.

To develop students' abilities to work practically with various software products, systems and models.

To comprehensively promote independent scientific research in computer science.

To be able to solve problems related to the reduction of information security risks in software.

To improve students' professional foreign language skills.

To acquaint students with IT standards, professional ethics and professional psychology

To promote participation in scientific research and motivate them for further education at the master's level.

Learning outcomes.

The results of the students of the study program will be documented, but the study process will be periodically reviewed and audited, determining the following study results to be obtained by the time the student graduates from the study program: Professionally trained and academically educated software engineer.

The graduate's training meets the requirements in the field of ICT, in accordance with the professional standards of programmers and is in accordance with the LZP Science branches and sub-branches annotation No. 5, and corresponds to the sixth level of the Latvian qualification framework (6.LQF) and the fifth level of the professional qualification (5.PQL) as well.

Able to apply mathematical and algorithm principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications.

Able to design, apply and develop software of various levels of complexity to ensure the operation of simple and complex systems.

- Able to apply computer skills and mathematics, according to the requirements of a software engineer.

Able to critically analyse the problem, identify and determine the requirements for the application of computing techniques to a specific situation.

Able to design, implement and evaluate computer based systems, processes, components or programming codes.

Able to effectively integrate and work in a team to achieve common goals.

Able to apply current techniques, skills and tools required for practical work in computer science.

Able to use software development tools and environments.

Able to perform software implementation, testing and maintenance.

Able to design, encode and debug programs.

Able to carry out system analysis.

Able to participate in project development, management, planning and coordination of the working group.

Able to apply IT industry standards.

Able to use professional terminology.

Able to develop learning skills, plan their working time, which is necessary for further research with a high level of independence.

The final examination foreseen at the end of the study program

State examinations are held the completion of study programmes.

Professional standard of Software Engineer (Professional code - 2512 02)
<https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/ps0227.pdf>

1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

The total number of students has been fluctuating during the reporting period. Although there are students who have been expelled, the reasons are most often personal.

Statistical data on students during the reference period are provided in Appendix 1.

1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

Implementation of the professional bachelor's study program "Computer Systems" (hereinafter CS) ends with the award of the fifth professional qualification level, Professional Bachelor's Degree in Computer Systems and professional qualification *Software Engineer*.

The aims, tasks and learning outcomes of the program are set out according to the professional qualification - *Software Engineer* [1].

The aim of the professional bachelor study program is to educate and train professional specialists for independent work in the field of information technology with knowledge of computer system architecture, software engineering, system analysis, basic database technologies and the basics of artificial intelligence. To educate professionals who are able to demonstrate systemic thinking and systemic approach to software application development projects, playing different roles and taking into account the IT standards and professional ethics of an IT engineer. To educate students to carry out scientific research based on experimentation, modelling and simulation. To educate students for further qualification and continuation of studies in professional Master's level study programmes.

The program objectives are as follows:

- To provide an opportunity for students to successfully master the study program and obtain a bachelor's degree in computer systems and the corresponding professional, academic, scientific and intellectual competences.
- To develop abilities to strengthen knowledge of computer sciences in a goal oriented manner and to promote the use of this knowledge in the development of one's bachelor thesis and professional activities. To acquire knowledge and skills of computer science theories and their application in practice.
- To develop students' abilities to work practically with various software products, systems and models.
- To comprehensively promote independent scientific research in computer science.
To be able to solve problems related to the reduction of information security risks in software.
- To improve students' professional foreign language skills.
- To acquaint students with IT standards, professional ethics and professional psychology.
- To promote participation in scientific research and motivate them for further education at the masters level.

The learning outcomes envisaged in the program correspond to the goals set and the results of the students of the study program will be documented, and the study process will be periodically reviewed. The results of the students of the study program will be documented, but the study process will be periodically reviewed and audited, determining the following study results to be obtained by the time the student graduates from the study program:

- Professionally trained and academically educated software engineer.
- The graduate's training meets the requirements in the field of ICT, in accordance with the professional standards of programmers and is in accordance with the LQP Science branches and sub-branches annotation No. 5[2], and corresponds to the sixth level of the Latvian qualification framework (6.LQF) and the fifth level of the professional qualification (5.PQL) as well.
- Able to apply mathematical and algorithm principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications.
- Able to design, apply and develop software of various levels of complexity to ensure the operation of simple and complex systems.
- Able to apply computer skills and mathematics, according to the requirements of a software engineer.
- Able to critically analyse the problem, identify and determine the requirements for the application of computing techniques to a specific situation.
- Able to design, implement and evaluate computer based systems, processes, components or programming codes.
- Able to effectively integrate and work in a team to achieve common goals.
- Able to apply current techniques, skills and tools required for practical work in computer science.
- Able to use software development tools and environments.
- Able to perform software implementation, testing and maintenance.
- Able to design, encode and debug programs.
- Able to carry out system analysis.
- Able to participate in project development, management, planning and coordination of the working group.

- Able to apply IT industry standards.
- Able to use professional terminology.
- Able to develop learning skills, plan their working time, which is necessary for further research with a high level of independence.

From matriculation to ex matriculation, the student acquires the skills and competences appropriate to the program aims, tasks and learning outcomes and gains skills and competences that correspond to the qualification to be obtained - *Software Engineer* [2].

The enrolment requirements - secondary education, are in line with the programme's objective, objectives and learning outcomes, so that the student can begin the study process and obtain the education he or she desires. Admission to the study programs "Computer Systems" takes place on a competitive basis on the basis of centralized examination in the following subjects: Latvian, English and Mathematics, except persons who have completed secondary education before 2004, persons who have completed secondary education abroad or persons with special needs. Benefit is given to winners of Mathematics, Physics or Informatics Olympiad. In the case of an equal points, preference is given to the applicant who has concluded a contract with the University (TU) earlier. Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in basic study programmes except for the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: Latvian and Foreign languages (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein.

Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: English and Mathematics. The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein.

Persons who have completed secondary education abroad shall be enrolled in basic study programmes based on the assessments recorded in the document certifying secondary education in the study subjects - Native language in the country where the persons completed secondary education and foreign language (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein.

Foreign applicants who wish to study in the study programs "Computer Systems" shall appear for a Mathematics test along with an English language test. Applicants who receive 60-100% of the total points in mathematics can be enrolled in the study programs "Computer Systems".

[1] Professional standard of Software Engineer (Professional code - 2512 02)

<https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/ps0227.pdf>

Minutes No.5 of the meeting of the Tripartite Cooperation Sub-Council for Vocational Education and Employment on June 17, 2009

[2] http://www.lzp.gov.lv/index.php?option=com_content&task=view&id=144

III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

The study program "Computer Systems" has been developed in accordance with the requirements of the labour market and includes courses necessary for the development and improvement of professional qualification. The content of the study courses is designed to provide students with the necessary knowledge on IT trends in programming and other general study courses, helping them to acquire the skills and competences necessary to pursue the profession of a programmer and be competitive in the labour market. The study courses included in the program are updated to include current issues in the field, supplemented with new theoretical concepts, as well as current IT issues, as well as taking into account changes in the regulatory framework.

The program is periodically reviewed with the involvement of students and other stakeholders.

Proposals for updating are made by the lecturers of the study courses, the program director, and the recommendations of the employers are appreciated.

The update of study courses is evaluated at the ITN meetings and ITN methodological seminars, where the academic staff, representatives of employers and the industry as well as students meet.

The topicality of the study program courses is based on industry trends, which is listened to from leading IT companies and is observed in the market demand for programmers. As already mentioned, this information is obtained from cooperation partners who are IT companies and determine the industry trends. An example is Accenture Latvia's continuous BootCamp (<https://bootcamp.accenture.lv>) activities, which are provided at least 3 times a year with Java / Software engineering, which are always completed and consist of at least 25 participants. After such activities, most of them are offered internships, which are paid and the student is able to get paid. Also, one of the other indications is the www.CV.lv portal, which is the job advertisement portal No.1 in the territory of Latvia. Looking at this portal, one can observe the trend that programmers in the field of IT need an average of ~ 400 vacancies. If you compare it with "Finance / Accounting" and "Banking / Insurance" it is about twice less. Going into the relevant industry, we can see the distribution that in the IT sector, in the Java programming language, ~ 60 vacancies are needed. Specifically, speculating with this data, we can say that ~ 15% of all IT vacancies require knowledge of the Java programming language. Also, it should be noted that other programming languages such as "C#" and "Python" are provided in the study program "Computer Systems". They can also look at this site and see that ".NET", which is a platform that provides "C#" programming language, the portal's search results represent ~ 100 vacancies. As it is mentioned, the "Python" programming language results in ~ 30 vacancies. With the help of a good analysis, we can count a total of 60 + 100 + 30, which makes up ~ 190 vacancies out of ~ 400, which makes up ~ 47.5% of all vacancies in the IT sphere. Based on these data, it can be stated that the study program "Computer Systems" is relevant according to the industry trends.

The interconnection of the study courses of the study program ensures gradual and systematic acquisition of study courses. In the first year of study, the student in the first semester acquires the

following subjects: "Software Development Fundamentals 1, Java", "English 1", "Mathematics", "Introduction to Computer Architecture, Software Engineering and Computer Systems", "Latvian Language 1", "Design Thinking in the IT Industry". Each of these subjects is very important for a successful and good understanding of the IT field as such. Also, be able to orientate oneself in the basics of computer architecture and software engineering and computer systems and the general perception of computer processes. A programming language allows you to get to know its basics and start by understanding what it really is and how it can be used. Of course, without logical thinking and critical thinking it is not possible to design programs and their solutions well and successfully, both subjects like "Mathematics" and "Design Thinking in the IT Industry" help in this regard. Improving the English language is justified because the studies are conducted in English and the IT field is directly subordinated to English terms. Critical thinking is also formed by a supplementary course, which is based on the principles of mathematics and also on the basics of programming, able to improve better programming skills already after the first semester. In the first year of study, the student acquires the following subjects in the second semester: "Software Development Fundamentals 2, Java", "Software Testing and Quality", "Professional Vocabulary (in English) 2", "Object-Oriented Programming", "Linear Algebra and Analytical Geometry", "Civil and Environmental Protection", "Algorithms, Data Structures and Complexity", "Course Work". Each of these study courses provides a reasonable supplement to the knowledge based on the previous semester or the first semester. The basics of programming that continue in the Java programming language are strengthened by at least 50% in complexity and contact hours to make the improvement in the programming language more effective. Also, in order to be able to understand the correct programming style, such subjects as "Automatic software testing and quality", "Object-Oriented programming", "Algorithms, Data Structures and Complexity" are taught. They raise awareness of a quality programming style that can be automated and tested for proper program execution. The choice of correct algorithms and accurate data structure selection makes the programming style and software efficiency increase. "Object-Oriented programming" allows you to learn about the interaction of objects and the basics of effective software. At the end of the second semester, students are able to reflect their knowledge in the "Course Work", during the development of which all the acquired knowledge of the first study year is evaluated in a single document and in the development of a single solution.

In the second study year, the student acquires the following subjects in the first semester: "Pre-qualification work practice", "Software Development Fundamentals 3", "Labor law". One of the most important is a 16-week internship in an IT company, during which the student is able to get to know the IT company and understand the processes that take place in such a company. Supplement your knowledge with a new programming language "C#", which increases the scope of programming and opportunities in the labor market. In the second study year, the student acquires the following subjects in the second semester: "Qualification work", "Enterprise Continuous Application Software Integration", "Software Development Fundamentals 4", "Business", "Database Systems", "Computer graphics and image processing". The student has the opportunity to choose from Part C two subjects that will be able to improve knowledge of a particular field. One of the most important stages is the "Qualification Work", which should be developed as a State Examination. The last semester also includes "Database Systems", which allow you to understand how databases work and how they can be linked to programming languages and their use.

The submitted recommendations for the improvement of the study program come from the teaching staff in the improvement of the descriptions and regulations of the study courses. As mentioned above from the industry, as well as, a survey of students, which helps to improve the study program.

2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.

The aim and tasks of each study course are related to the goal of the overall program (to educate and train the student to work as a Software Engineer, promoting his/her development into a mentally and physically developed, free, responsible and creative personality, to provide the opportunity to gain the knowledge and develop skills necessary for Software Engineer to successfully develop the IT enterprise and promote its competitiveness in an active IT business environment in the Latvian and international market.), tasks and learning outcomes providing students with the knowledge, skills and competences required to work professionally within the scope of their competences in accordance with their duties.

The aim of each study course is to contribute appropriately to the achievement of the overall aim of the study program. The goals of both compulsory and optional study courses are subordinated to the goal of the program - to educate and train students for work in the profession of a Software Engineer - by developing knowledge, skills and competencies. It could be concluded that the planned learning outcomes of the study courses correspond to the planned learning outcomes of the study program and allow to develop the competencies defined in the professional standard of a specialist - Software Engineer, and to create a knowledge base. This is also confirmed by the comparison in Appendices 4 and 5.

The most up-to-date information in the field is included in the study courses. The information included in the study courses does not overlap, but complement each other throughout the study period.

The study courses include information that promotes general, professional and transversal skills of students from the moment of matriculation to ex-matriculation, in accordance with the goals, tasks set for the program and the learning outcomes to be achieved. The study courses enable the acquisition of skills and competences corresponding to the acquired qualification - Software Engineer.

Study courses:

Part A

- English 1
- Software Development Fundamentals 1, Java
- Introduction to Computer Architecture, Computer Engineering and Computer Systems
- Mathematics
- Software Development Fundamentals 2, Java
- Object-Oriented Programming
- Linear Algebra and Analytical Geometry
- English 2
- Civil and Environmental Protection
- Discrete Mathematics
- Economics and Entrepreneurship

- Software Testing and Quality
- Practice
- Coding and Cryptography
- Software Project Management
- Machine Learning and Intelligent Analytics
- IT security and risk management
- Finance and Accounting
- IT law and copyright
- Software Developer Kit
- Pre-Diploma Practice
- State Examination (Bachelor thesis)

Part B

- Design Thinking in the IT Industry
- Numerical methods of elliptic differential equations
- Latvian Language 1
- Algorithms, Data Structures and Complexity
- Course paper 1
- Software Development Fundamentals 3
- Database Systems 1
- Enterprise Continuous Application Software Integration
- Database Systems 2
- Course paper 2
- Graphics and Visualization
- Software Development Fundamentals 4
- Introduction to Operations Research
- Internet of Things
- Green/IT Systems and Methods
- Data Analysis and Benchmarking
- Course paper 3
- Building Software for Modeling and Simulation
- Internet systems and standards
- Robotics
- Blockchains

Part C

- French 1
- French 2
- German 1
- German 2
- Russian 1
- Russian 2
- Spanish 1
- Spanish 2
- Latvian 2

2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the

evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

The problem solving method allows to develop practical skills, such as performing independent programming in Java.

In each study course the lecturer chooses the most appropriate teaching method that best contributes to the achievement of the learning outcomes of the study course and the whole study program. All study methods can be used in one course.

In accordance with the basic principles of student-centred education, the requirements, the results i.e. the final grade, percentage distribution (weightage) for the study courses are clearly defined. Lecturers regularly evaluate and improve study course teaching methods, promote student autonomy simultaneously ensuring educator supervision and support as well.

Educators follow the implementation of student-centred teaching and learning in their work process, taking into account and respecting the diversity of students and their needs; using various learning pathways that are appropriate to the students' capabilities by implementing programs in different ways and providing opportunities to tailor works and assignments according to their own knowledge. In addition, where appropriate, a diverse pedagogical approach, derived from seminars and active education in the design of scientific papers and participation in scientific conferences, is used. Educators encourage learners to become independent while at the same time providing guidance and support, and promote mutual respect between learners and educators.

In case of need, Turiba has appropriate procedures for resolving student complaints (described in the Study Regulations). Given the importance of assessment for student advancement in studies and future careers, quality assurance procedures for student assessment take into account the following:

The assessors are familiar with assessment and assessment methods and receive support for the development of their skills in this field;

- The assessment criteria and methods, as well as the criteria for awarding marks, are made public in advance;
- Assessment gives students the opportunity to demonstrate the extent to which they have achieved the expected learning outcomes.
- Students receive feedback and if necessary receive guidance related to the learning process;
- Whenever possible, more than one examiner will conduct the assessment;
- The assessment regulations take into account various circumstances that facilitate student learning;
- The assessment is consistent, fair to all students and implemented according to approved procedures;

There is a procedure for reviewing student appeals.

2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education

institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.

In order to achieve the expected learning outcomes of the study program and to encourage students to acquire the skills and competences necessary for the profession of a programmer, the content of the program envisages practice of 8 CP and 12 CP, which consists of Pre-diploma work practice and practice.

The task of practice work is to consolidate theoretical and practical knowledge in programming. The internship (practice) allows to develop skills in IT programming, the factors influencing them, to independently analyse information and IT process (at the practice enterprise), to acquire new knowledge about programming languages and IT processes and their functions in an IT company.

Practice enables students to develop the following competencies:

- To strengthen theoretical knowledge about programming and its use in a real life company;
- Demonstrate knowledge and skills in programming and drafting reports;
- Demonstrate the ability to perform independent information analysis and compare the problem of the company under research with the solutions available;
- Ability to provide sound recommendations and suggestions for improving the performance of the IT company.

This corresponds to the aims and objectives of the program and enables developing the competences needed for the profession of a software engineer.

The student, through practice, acquires and strengthens the theoretical knowledge acquired during the study courses. Theoretical knowledge is systematized, strengthened and expanded through practical work. Student would be able to make knowledge based decisions. Student would become creative and innovative, would be able to define problems and offer definite measures and models to resolve the problems.

Within the limits of its competence, Turiba shall support the student in the achievement of the tasks set within the framework of the internship by appointing an individual practice supervisor from Turiba, who provides the student with support in performing the internship tasks.

Students have the opportunity to do practice at a place of their choice, but Turiba has also signed cooperation agreements with companies to provide practice placements. Students can contact the program director, who will be able to outline the relevant practice placements that are available in collaboration with Turiba partners.

2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

The students work out the final bachelor thesis on topical and important areas and topics related to practice.

The bachelor thesis provides students the opportunity to learn the necessary knowledge, acquire skills and achieve the competences required to acquire the profession of a Software Engineer (code

- 2512 02). This is also one of the main overarching goals when planning the topic of the work, the research objects, and the respective supervisors also provide support during the planning process.

The appendix includes:

- List of final thesis topics (example, Development of a Mobile Tourism Expert System, Development of an Interactive Application for Higher Education Institutions, Development of a Search Engine Keyword Research Solution, Development of a Secure Website Validator);
- a table regarding the compliance of the study program with the state education standard (Annex 6);
- a table regarding the compliance of the qualification to be acquired in the study program "Computer Systems" with the professional standard (Annex 7);
- mapping of study courses for achieving the study results of the study program (Appendix 8);
- the study program plan (in Appendix 9);
- descriptions of the study courses (modules) of the study program (Appendix 10).

2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.

In order to improve the study process and environment, and to evaluate the study content, BAT regularly conducts student surveys. ITN feedback from employers on the knowledge and skills of students of the implemented programs and their suitability for the requirements of the labor market.

See attached analysis.

2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.

Each academic year, the ITN receives information from the International Department regarding the opportunities for students and lecturers to use the Erasmus+ mobility program offers for the respective academic year.

Incoming student mobility

| | <i>Title of the study programme</i> | 2019/2020 | 2020/2021 |
|-----------------------------|----------------------------------------------------------|-----------|-----------|
| 42484 | Professional bachelor study programme "Computer Systems" | | |
| Erasmus+ studies | | 2 | 0 |
| Erasmus+ practice placement | | 0 | 0 |
| Other mobility programs | | 0 | 0 |

Outgoing student mobility

| | <i>Title of the study programme</i> | 2019/2020 | 2020/2021 |
|-----------------------------|-------------------------------------------------------------|-----------|-----------|
| 42484 | Professional bachelor study programme "Computer Systems" | | |
| Erasmus+ studies | | 0 | 0 |
| Erasmus+ practice placement | | 0 | 0 |
| Other mobility programs | | 0 | 0 |

The main reasons for low mobility are as follows:

- The study programme was started during the academic year 2019/2020.

Mobility and recognition of study courses undertaken during mobility shall be in accordance with the provisions of the Erasmus + mobility program.[\[1\]](#). A procedure has been set for students to agree with the partner universities and faculties on the study courses to be taken (taking into account the study courses implemented in the program) prior to the mobility, and to conclude a study agreement. Upon completion of the mobility, the student submits a transcript of records of the courses completed at the partner institution of higher education; successfully completed study courses, in their entirety, are transferred with the grade "passed" on the basis of the dean's decree.

[\[1\]](#) Regulations on Erasmus + mobility program (APPROVED at the Turiba Senate meeting on 22.05.2019, Minutes No. 5

III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

The existing material technical base allows to fully provide for the study courses included in the study program, based on information provided in the criteria 3.1 to 3.3 in section 3 of Part II. Lectures take place in conference rooms, classrooms, computer rooms, and students have access to a modern library with a large reading room. The lecture rooms are equipped with high quality visual equipment – white boards, screens, multimedia projectors, audio and video equipment. Students have Access to computer workstations. Stationary and portable multimedia projectors are

available. The classrooms and common areas are maintained by the university's housekeeping service department, which regularly cleans and ventilates the premises.

Every year Turība invests in proportion to the growth in the number of students in the development of library technologies, the acquisition of databases and the collection of the latest literature. The list of required literature is updated annually according to the wishes of the academic staff and students.

Library of Turība University

The Library is a structural unit of Turība - a publicly accessible library that holds and maintains information resources for academic and research activities.

The library provides library users with information resources and services necessary for the study process and scientific activities; develops and supplements the Library Collection and Library Information System (BIS) "Alise" with the latest, up-to-date information resources in cooperation with the faculties, departments, etc. structural units according to the directions of scientific work of the higher education institution and requirements of study programs.

The library's electronic catalogue: <https://w3i.turiba.lv/Alise/en/home.aspx>

In the field of Information Technology, according to the UDC (Universal Decimal Classification), the library has sections where literature on this topic is available both in Latvian and in foreign languages.

UDC sections of computer science

| | | |
|-------------|---------------------------------------------------|------------------------------------------------------------------------|
| 004 | Datortehnika. Programmnošķinājums | <i>Computer science and technology. Computing. Data processing</i> |
| 044 (03) | Datortehnikas vārdnīca, rokasgrāmatas | <i>Dictionaries and handbooks of computer engineering</i> |
| 004.4 | Programmatūra | <i>Software</i> |
| 004.43 | Programming languages | <i>Programming languages</i> |
| 004.6 | Dati. Datu bāzes | <i>Data and data bases</i> |
| 004.7 | Tīkli. Lokālais tīkls. Ārējie tīkli. Internets | <i>Computer communication. Computer networks</i> |

The library fund (as of 17.01.2020) consists of 53,723 copies of books, in the field of information technology - 263 titles (1296 copies) of books.

The library provides the library collection, incl. availability of electronic databases for independent studies and research; organizes and provides library and bibliographic services, modernizing and extending the quality of services provided. The University subscribes to online electronic databases: Scopus, ScienceDirect, LETA. Nozare.lv., Letonika, Lursoft, EBSCO Academic Search Complete, EBSCO eBooks Academic Subscription Collection, EBSCO Business Source Complete, also constantly providing students the opportunity to use trial databases: <https://www.turiba.lv/en/library/online-databases>

The library provides users with a comfortable and work-friendly environment. Extensive collection of free-access books - subscription with user-accessible electronic catalogue, library reading room with latest press issues. The library has 182 workstations out of which 59 are computer workstations. The library offers a variety of library services to students and other users of the library: <https://www.turiba.lv/storage/files/bibliotekas-pakalpojumu-cenradis2020.pdf>

Turiba invests annually in supplementing the library's information resources (both for purchasing literature and subscribing to electronic databases). Turiba University Library is a member of LATABA (Latvian Academic Library Association).

An agreement has been concluded with RTU on cooperation in the use of library information resources. The agreement will enable students of the Turiba study direction and the study program "Computer Systems" to use the information resources in the resources of the RTU Scientific Library.

Due to the large amount of information, it is included only in the electronic version of the study program "Computer Systems".

Turiba University premises, computer classes and Information system

Turiba is located in Riga on Graudu Street 68, and occupies a territory with an area of 35,372 m². The university can simultaneously host 2,756 students in terms of the provision of study premises. All Turiba buildings belong to the university as can be seen from the Land Register entry on September 16, 1996. According to the Law of the Saeima of the Republic of Latvia dated November 4, 1995, Turiba is included in the list of educational objects of national significance. The university campus includes 2 study buildings, a youth hostel for students, two canteens and a parking lot.

All necessary conditions/environment for studies are present - spacious conference halls, lecture halls, computer classes, laboratories and classrooms and modern library with a spacious reading room. The lecture rooms are equipped with high quality visual equipment - white boards, OHTs and screens, multimedia projectors, audio and video equipment. Lectures take place in spacious conference halls, lecture halls, computer rooms, and students have access to a modern library with a large reading room. The lecture halls are equipped with high quality visual equipment - white boards, OHTs and screens, multimedia projectors, audio and video equipment. Students have access to 164 computerised workstations. 30 stationary multimedia projectors have been installed and 2 portable ones are available as well. The lecture halls and common areas are maintained by the university's housekeeping service department, which regularly cleans and ventilates the premises.

Since 2013, a modernized Business Incubator has been in operation, where Turiba students and graduates can set up their own companies. Students have access to computer workstations. 28 stationary multimedia projectors have been installed and 2 portable ones are available as well. Free Wi-Fi is available all over the Turiba university campus. For the convenience of students, a Turiba information system (BATIS) has been created, in which every student can follow their progress, see descriptions of study courses and study materials, receive the most important information regarding the study process, as well as electronically apply for various testimonials and permits.

Turiba has its own IT systems department, which ensures the operation of the IT environment. The technical service ensures the operation of computer equipment and computer network, programmers - operation and development of Turiba's internal information system (IS) and BATIS.

Turiba has three computer classes: 29, 30, 37 student work stations+ lecturer's workstation with projector. The reading room has 60 computers for students' independent work. The JTM computer room has 12 computers for students' independent work. 25 lecture halls are equipped with a multimedia projector and a computer (excluding small ones where there is only a computer or a

computer + TV). MS Windows operating system and MS Office have been installed on all computers. Computer specification in classrooms and reading room - Intel 4xcoreI5 / 4GB RAM. All computers are connected to a network with Internet and Intranet access.

MS Office, - MS Windows, MS Office is available for students and employees for studies or work. Data storage and user authentication is provided using MS Windows and Novel OES servers. The IS developed by the Turiba IT department is used to ensure the study process. Turiba subscribes to "MS IT Academy".

Additional software includes SPSS, Fidelio, CorelDraw, UVFam - Zalktis, MS Project. The Moodle environment is used in the e-learning process. Library functions are provided by ALISE software.

A computer class was equipped with new hardware for the academic year 2019/2020. These included 23 new computers with respective specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". Two projectors were installed as well: "Maxell MC-EU5001 (WUXGA, 5000Lm)". Software licenses were bought for "JetBrains Toolbox", and a lease agreement for "Microsoft Office 2013".

3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).

III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

In 2020, 3 professors, 1 assistant professor and 4 lecturers were elected.

In 2019, 3 professors and 3 lecturers were elected.

Lecturer Charles Busmanis is replaced by Dace Amsone in the study course Design Thinking in the IT Industry, which improves the quality of the existing course.

Strong IT specialists from the professional environment Antons Kolodinskis, Jelena Chaiko, Ludmila Tillere, Maksims Žigunovs are involved.

Bohdan Haidabrus from Summy State University is also attracted to increase international cooperation and the number of foreign guest lecturers.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting

docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

Recruitment of the academic staff:

- In order to create an academic environment corresponding to the requirements of higher education and in accordance with the procedures specified by Turība scientific and academic staff are recruited, and their further qualification is organised as well;
- The loyalty of the academic staff and employees is promoted by motivating them to increase the quality of work by presenting awards, expressing recognition, creating various social and cultural events and, as far as possible, material stimulation.

Cooperation with other HEIs:

- development of co-operation with foreign higher education institutions in order to conclude co-operation agreements on the establishment of joint study programs and co-operation in the field of scientific research;
- regular analysis of the study processes related to the ICT sector in the context of the achievements of other higher education institutions, search for opportunities to enhance the quality of studies;
- regularly invite guest lecturers;
- regular use of lectures by visiting professors, webinars to inform students about the world of computer science and the EU, to expand competencies at the international level;
- cooperation with other Latvian higher education institutions;
- to stimulate students' cooperation with secondary schools.

Mobility of academic staff and students:

- Cooperation with other HEIs including foreign HEIs is further developed by concluding agreements on student and educator exchange opportunities;
- Lecturers and students are encouraged to participate in the "Erasmus" program, giving lectures and through the participation of one lecturer in the exchange of experience under the Erasmus program.

Turība's elected academic staff will participate in the implementation of the first level professional higher study process: doctors of sciences - professors, associate professors, assistant professors and lecturers, leading researchers and researchers of the Business Technology Institute (BTI), and invited visiting professors and guest lecturers from other Latvian universities as well.

Of the 21 lecturers involved in the field of study.

9 of them elected.

12 of them are visiting teachers.

- 5 of them lecturers.
- 6 of them are guest lecturers.
- 3 of them are professors.
- 2 of them are visiting professors.
- 3 of them are guest docents.
- 1 of them is a guest assistant.

4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).

4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).

4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.

Involvement of program lecturers in scientific research is realized as follows: participation in scientific and practical research, projects, conferences, publishing of monographs.

At Turība annual international scientific conferences, lecturers participate with their research and encourage student participation, participate in the organization of section work, and the ITN is responsible for organizing the 2021 conference. The lecturers also take an active part in international conferences held abroad and in other higher education institutions of Latvia.

Research directions and topics of the lecturers:

1. J.Pekša - URP systems, operations research, forecasting methods, data analysis and data sources.
2. Competitiveness factors, economic cooperation in the context of Latvia-China.
3. P.Morevs – mathematical analysis.
4. M.Žigunovs – software engineering.
5. R. Zvirgzdiņa - SME development in Latvia;

Some examples

- Bulis, A., Kabiraj, S., Siddik, N.A. (2019). Competitiveness Impedimental Factors of Latvian Manufacturing Companies in China, *Global Business Review*, First Published January 30, 2019.
- Morevs, P., Rimshans, J.S. and Guseynov, S.E., 2011. Nodal Numerical 2D Helmholtz Equation: Truncation Analysis. In *Advanced Materials Research* (Vol. 222, pp. 345-348). Trans Tech Publications Ltd.
- Karakozov, S.D., Khudzhina, M.V., Gorlov, S.I., Morevs, P., Dzhambetov, E.M. and Butko, Y.Y., 2019. TRAINING OF IT-SPECIALISTS IN RUSSIAN AND EUROPEAN HIGHER EDUCATION: A COMPARATIVE STUDY. In *icCSBs 2019-The Annual International Conference on Cognitive-Social, and Behavioural Sciences* (pp. 181-190).
- Mackare, K., Jansone, A. and Žigunovs, M., 2018, October. E-material creating and formatting application. In *International Conference on Human Systems Engineering and Design: Future Trends and Applications* (pp. 135-140). Springer, Cham.
- Žigunovs, M., Iltiņš, I. and Radin, M.A., 2016. The Solution of the Heat Conduction Equation in 3D Anisotropic Environment and Possibilities of its Improvement. *Boundary Field Problems and Computer Simulation*, 55, pp.34-39.
- Peksa, J., 2020, August. Autonomous Data-driven Integration Algorithm. In *Proceedings of the 2020 4th International Conference on Cloud and Big Data Computing* (pp. 63-67).
- Peksa, J., 2020. Prediction Framework with Kalman Filter Algorithm. *Information*, 11(7), p.358.
- Zvirgzdiņa R., Jeromanova-Maura S., Liniņa I. (2018). Social Enterprises In Baltic States. 4TH INTERNATIONAL CONFERENCE ON LIFELONG LEARNING AND LEADERSHIP FOR ALL (ICLEL 2018) Pages: 678-687. Database: ThomsonReuters WoS

More information on lecturers' participation in conferences, projects, scientific monographs, as well as a list of publications can be found in the appendices of the evaluation of the study direction

Evaluating the scientific research activity during the reporting period it could be said that it has improved and lecturers are more actively involved in research and text books and monographs have been published.

The results of scientific research are integrated into the study process, the lecturers give examples in their study courses, analyse current issues and problems discovered. By their examples, lecturers stimulate students' interest in research and encourage students' participation in Turība conferences.

4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).

Cooperation among lecturers should be considered successful. The provision of the study process involves lecturers from different faculties, which facilitates communication between the lecturers. Cooperation among lecturers is promoted through various seminars organized by the higher education institution for the improvement of lecturers' qualification, as well as within the ESF project No. 8.2.0/18/A019, wherein lecturers have the opportunity to participate in master classes, such as the use of state-of-the-art IT and digital solutions for educators of the IT industry, academic English for work with international students, thereby gaining additional knowledge,

discussing/exchanging their experiences and strengthening their collaboration as well.

Annual strategic seminars are organized, where lecturers work in groups to find solutions for different situations and to discuss possibilities of study process development and improvement.

The lecturers' cooperation is strengthened by annual scientific conferences, which provide an opportunity to discuss different issues, to find common interests, but in organizing student section work, lecturers from different departments/faculties work in teams to evaluate student research.

The lecturers' cooperation also allows to ensure better link between the study courses.

Ratio of students and educators in the study programme

| <i>Criteria</i> | 2020/2021 |
|--------------------------------------------------------------------|------------------|
| <i>Number of students</i> | 31 |
| <i>No. of educators</i> | 23 |
| <i>Educators of the department implementing the program</i> | 9 |
| <i>Educators of other faculties</i> | 14 |
| <i>Ratio of students to teaching staff</i> | 0.76 |

Annexes

| III. Description of the Study Programme - 1. Indicators Describing the Study Programme | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table) | | |
| Statistics on the students over the reporting period | 1_Statistika_studenti_CS_EN.docx | 1_Statistika_studenti_CS_LV.docx |
| III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof | | |
| Compliance of the study programme with the State Education Standard | 2_Atbalstība_izglītības_standartam_CS_EN.docx | 2_Atbalstība_izglītības_standartam_CS_LV.docx |
| Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable) | 3_Atbalstība_profesijas_standartam_CS_EN.docx | 3_Atbalstība_profesijas_standartam_CS_LV.docx |
| Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable) | | |
| Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme | 4_Kartejums_CS_EN.xlsx | 4_Kartejums_CS_LV.xlsx |
| Curriculum of the study programme (for each type and form of the implementation of the study programme) | 5_Studiju_plāns_CS_EN.docx | 5_Studiju_plāns_CS_LV.docx |
| Descriptions of the study courses/ modules | 6_Studiju_kursu_apraksti_un_noteikumi_2.limenis_EN.pdf | 6_Studiju_kursu_apraksti_un_noteikumi_2.limenis_LV.pdf |
| Description of the Study Direction - Other mandatory attachments | | |
| Sample of the diploma to be issued for the acquisition of the study programme. | 7_Diploms_CS_EN .pdf | 7_Diploms_CS_LV .pdf |
| Description of the Study Programme - Other mandatory attachments | | |
| Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued | 8_Ligumi_par_turpinasanu_CS_EN.pdf | 8_Ligumi_par_turpinasanu_CS_LV.pdf |
| Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme | 9_Zaudejuma_apliecinajums_CS_EN.edoc | 9_Zaudejuma_apliecinajums_CS_LV.edoc |
| Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language. | 10_Mācībspēku_saraksts_CS_EN.edoc | 10_Mācībspēku_saraksts_CS_LV.edoc |
| If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree. | | |
| If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education | | |
| Sample (or samples) of the study agreement | 11_Studiju_ligums_CS_EN.docx | 11_Studiju_ligums_CS_LV.docx |
| If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education. | | |

Computer Systems (41484)

| | |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Study field | <i>Information Technology, Computer Hardware, Electronics, Telecommunications, Computer Management, and Computer Science</i> |
| ProcedureStudyProgram.Name | <i>Computer Systems</i> |
| Education classification code | <i>41484</i> |
| Type of the study programme | <i>First level professional higher education study programme</i> |
| Name of the study programme director | <i>Jānis</i> |
| Surname of the study programme director | <i>Pekša</i> |
| E-mail of the study programme director | <i>Janis.Peksa@turiba.lv</i> |
| Title of the study programme director | <i>Mg.sc.ing., Mg.oec.</i> |
| Phone of the study programme director | <i>28610710</i> |
| Goal of the study programme | <i>To prepare professional specialists for independent work in the field of informatics by providing first level professional higher education in the field of study "Information technologies, computer technology, electronics, telecommunications, computer control and computer science" to prepare qualified programming specialists for practical work with computer software development and software based on professional standard programmer. Also, prepare for continuing studies at the bachelor's level.</i> |
| Tasks of the study programme | <i>To provide an opportunity for students to successfully master the study program and obtain the first level professional higher education in computer systems and the corresponding professional, academic, scientific and intellectual competencies. To develop abilities purposefully, to deepen one's knowledge in computer science and to promote the use of this knowledge in the development of qualification work and professional activity. To acquire knowledge and skills about computer science theories and their application in practice. To develop students' abilities to work with various software products, systems and models in practice. To comprehensively promote independent scientific research in computer science. Be able to solve problems related to reducing information security in software. To improve students' professional foreign language skills. To acquaint students with IT standards, professional ethics and professional psychology. To promote participation in the scientific research process, motivating for further education at the bachelor's level.</i> |

| | |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Results of the study programme | <p><i>Learning outcomes (knowledge, skills and competences to be acquired):</i></p> <ul style="list-style-type: none"> - Professionally trained and academically educated programmer. - The graduate's training meets the requirements in the field of ICT, in accordance with the standard of the programming profession and is in accordance with the LZP Science branches and sub-branches annotation No. 51, corresponds to the fifth level of the Latvian qualification introduction structure (5.LKI) and the fourth level of the professional qualification (4.KKI). - Able to apply mathematical and algorithmic principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications. - Able to use IT industry standards, use IT terminology, understands and is able to communicate in English and Latvian. - Able to use operating systems and use text and graphics editors, etc. office applications as well, are able to use typing techniques. - Able to participate in project management. - Able to apply specific skills in the profession, how to create and debug programs, apply design schemes and diagrams, design algorithms and data structures, choose adequate software products and tools to solve the problem. - Able to perform data protection and security measures, configure the workplace and tools, use software development tools, implement algorithms using a programming language, analyze program code, implement the user interface and program using Internet technologies. - Able to use data request languages, use program code quality testing tools, measure software performance, use good programming style, use software testing techniques, and perform system analysis and design. - Able to work in a team (group), perform work independently and plan the work to be performed and set their priorities. - Able to use information search and selection tools, prepare and manage presentation materials and events. - Able to persuade others and argue their opinion, draw up business documents. - Able to observe the principles of professional ethics, observe occupational hygiene and safety requirements, be able to communicate in English. |
| Final examination upon the completion of the study programme | State examination - Qualification work |

Study programme forms

Full time studies - 2 years - english

| | |
|------------------------|--------------------------|
| Study type and form | <i>Full time studies</i> |
| Duration in full years | 2 |
| Duration in month | 0 |
| Language | <i>english</i> |
| Amount (CP) | 80 |

| | |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Admission requirements (in English) | <p><i>Previous Education - secondary education. Admission to the study programs "Computer Systems" takes place on a competitive basis on the basis of centralized examination in the following subjects: Latvian, English and Mathematics, except persons who have completed secondary education before 2004, persons who have completed secondary education abroad or persons with special needs. Benefit is given to winners of Mathematics, Physics or Informatics Olympiad. In the case of an equal points, preference is given to the applicant who has concluded a contract with the University (TU) earlier. Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in basic study programmes except for the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: Latvian and Foreign languages (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Persons who have completed secondary education before 2004 and persons with special needs shall be enrolled in the study programs "Computer Systems" on the basis of the assessment of secondary education in subjects: English and Mathematics. The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Persons who have completed secondary education abroad shall be enrolled in basic study programmes based on the assessments recorded in the document certifying secondary education in the study subjects - Native language in the country where the persons completed secondary education and foreign language (English, German, French or Russian). The assessment shall be compared to the centralised examination assessment in accordance to the clause 2.16.herein. Foreign applicants who wish to study in the study programs "Computer Systems" shall appear for a Mathematics test along with an English language test. Applicants who receive 60-100% of the total points in mathematics can be enrolled in the study programs "Computer Systems".</i></p> |
| Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english) | |
| Qualification to be obtained (in english) | <i>programmer</i> |

Places of implementation

| Place name | City | Address |
|-------------------|------|-------------------------------------------------------|
| Turība University | RĪGA | GRAUDU IELA 68, ZEMGALES PRIEKŠPILSĒTA, RĪGA, LV-1058 |

III - DESCRIPTION OF THE STUDY PROGRAMME (1. Indicators Describing the Study Programme)

1.1. Description and analysis of changes in study programme parameters that have taken place since the issue of the previous accreditation certificate of study direction or the license of study programme if study programme is not included in the accreditation page of the study direction

There are no changes to the parameters since receiving the license.

| | | |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------|
| Title of the study programme | First level professional higher education programme „Computer Systems” | |
| Study programme code according to Latvian education classification: | 41484 | |
| Type of study programme and level | First level professional higher education study programme | |
| Qualification level awarded (NQF/EQF) | 5 | |
| Profession code in the profession classifications | Programmer (code 2512 05) | |
| Scope of the study programme (CP, recommended ECTS) | 80 CP (120 ECTS) | |
| Form, Type and Duration of Implementation (Please indicate in months if it is not full study years) and language of instruction | | |
| Full-time studies | Two years | English |
| Place of Implementation | Turība University, Graudu street 68, LV-1058. | |
| Study programme director: | Jānis Pekša, Mg.sc.ing., Mg.oec., 28610710, Janis.Peksa@turiba.lv | |

| | |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enrolment requirements | <p>Persons with secondary education can apply for the study program "Computer Systems". Enrolment to the program takes place through a competition based on the results of centralized examinations in Mathematics, Latvian and English. Entrance tests in mathematics and English are currently being developed, refer to enrolment regulations in the appendix.</p> <p>For persons with special needs and foreign persons: an final marks in a certificate or diploma, or a state examination, or a test in computer science or programming, algebra or mathematics, physics or natural sciences.</p> |
| Degree, professional qualification or degree and professional qualification awarded | <p>Degree to be awarded – none</p> <p>Professional qualification – Programmer</p> |
| Study programme goals: | <p>To educate and train professional specialists for starting independent work in the field of informatics by providing first level professional higher education and fifth level professional qualification[1],[2] in the study direction "Information technologies, computers, electronics, telecommunications, computer management and computer science", to educate and train qualified programming specialists for practical work with computer software development and software based on the professional standards of a programmer to educate students for further studies in professional bachelor level.</p> |

Study programme tasks

To provide an opportunity for students to successfully master the study program and obtain the first level professional higher education in computer systems and the corresponding professional, academic, scientific and intellectual competencies. To develop abilities to strengthen knowledge of computer sciences in a goal oriented manner and to promote the use of this knowledge in the development of one's thesis and professional activities. To acquire knowledge and skills of computer science theories and their application in practice. To develop students' abilities to work practically with various software products, systems and models. To comprehensively promote independent scientific research in computer science. To be able to solve problems related to the reduction of information security risks in software. To improve students' professional foreign language skills. To acquaint students with IT standards, professional ethics and professional psychology. To promote participation in scientific research and motivate them for further education at the bachelor level.

Learning outcomes.

The results of the students of the study program will be documented, but the study process will be periodically reviewed and audited, determining the following study results to be obtained by the time the student graduates from the study program:

- Professionally trained and academically educated programmer.
 - The graduate's training meets the requirements in the field of ICT, in accordance with the professional standards of programmers and is in accordance with the LZP Science branches and sub-branches annotation No. 51, and corresponds to the fifth level of the Latvian qualification framework (5.LKI) and the fourth level of the professional qualification (4.KKI) as well.
 - Able to apply mathematical and algorithm principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications.
 - Able to use IT industry standards, use IT terminology, understand and be able to communicate in English and Latvian.
 - Able to use operating systems and use text and graphics editors, etc. office application software as well, and able to use shorthand techniques.
 - Able to participate in project management.
 - Able to apply specific skills in the profession, how to create and debug programs, apply design schemes and diagrams, design algorithms and data structures, choose adequate software products and tools to solve the problem.
 - Able to carry out data protection and security measures, configure workplace and tools, use software development tools, implement algorithms using programming language, analyse program code, implement user interface and program using Internet technologies.
 - Able to use data query languages, use quality testing tools for program code, measure software performance, use good programming style, use software testing techniques, and perform system analysis and design.
 - Able to work in a team (group), perform work independently and plan the work to be performed and set priorities.
 - Able to use information search and selection tools, prepare presentation materials and organise events and manage them.
 - Able to persuade others and argue their opinion, draw up business documents.
- Able to observe the principles of professional ethics, observe occupational hygiene and safety requirements, be able to communicate in English.

The final examination foreseen at the end of the study program

Qualification paper

[1] Cabinet of Ministers Regulation No. 141, Riga, March 20, 2001 (i.e.. No. 12 5§) "Regulations on the state standards for first level professional higher education". Retrieved from: <https://likumi.lv/doc.php?id=6397>

[2] Academic Information Centre. Higher education level (LKI 5.-8. level) Retrieved from: <https://www.latvijaskvalifikacijas.lv/izglitiba-sistema/>

1.2. Analysis and assessment of the statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down in the different study forms, types, and languages.

The total number of students has been fluctuating during the reporting period. Although there are students who have been expelled, the reasons are most often personal.

Statistical data on students during the reference period are provided in Appendix 1.

1.3. Analysis and assessment of the interrelation between the name of the study programme, the degree or professional qualification to be acquired or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements.

The implementation of the first level professional study program "Computer Systems" ends with the award of the fourth level of professional qualification, the first level higher professional education diploma and the qualification of a *Programmer*.

The aims, tasks and learning outcomes of the program are set out according to the professional qualification - *Programmer*.

The aim of the first level professional higher education study program is to educate and train professional specialists for commencing independent work in the field of informatics by providing first-level professional higher education in the study direction "Information technologies, computer engineering, electronics, telecommunications, computer management and computer science", to educate qualified programming specialists for practical work with computer software development and software based to the professional standards of a programmer. To educate students for further studies in professional bachelor level.

The tasks of the program are to educate and train students for work in a certain profession and in accordance with the set goal to provide students with the opportunity to successfully master the study program and obtain first-level professional higher education in computer systems and corresponding professional, academic, scientific and intellectual competencies. To develop abilities to strengthen knowledge of computer sciences in a goal oriented manner and to promote the use of this knowledge in the development of one's thesis and professional activities. To acquire knowledge and skills of computer science theories and their application in practice. To develop students' abilities to work practically with various software products, systems and models. To comprehensively promote independent scientific research in computer science. To be able to solve problems related to the reduction of information security risks in software. To improve students' professional foreign language skills. To acquaint students with IT standards, professional ethics and professional psychology. To promote participation in scientific research and motivate them for further education at the bachelor level.

The learning outcomes envisaged in the program correspond to the goals set and the results of the students of the study program will be documented, and the study process will be periodically reviewed and audited, determining the following learning outcomes to be obtained when the student graduates:

- Professionally trained and academically educated programmer.
- The graduate's training meets the requirements in the field of ICT, in accordance with the professional standards of programmers and is in accordance with the LZP Science branches and sub-branches annotation No. 51, and corresponds to the fifth level of the Latvian qualification framework (5.LKI) and the fourth level of the professional qualification (4.KKI) as well.
- Able to apply mathematical and algorithm principles, computer science theories, model and design computer-based systems, demonstrate an understanding of the most appropriate software applications.
- Able to use IT industry standards, use IT terminology, understand and be able to communicate in English and Latvian.
- Able to use operating systems and use text and graphics editors, etc. office application software as well, and able to use shorthand techniques.
- Able to participate in project management.
- Able to apply specific skills in the profession, how to create and debug programs, apply design schemes and diagrams, design algorithms and data structures, choose adequate software products and tools to solve the problem.
- Able to carry out data protection and security measures, configure workplace and tools, use software development tools, implement algorithms using programming language, analyse program code, implement user interface and program using Internet technologies.
- Able to use data query languages, use quality testing tools for program code, measure software performance, use good programming style, use software testing techniques, and perform system analysis and design.
- Able to work in a team (group), perform work independently and plan the work to be performed and set priorities.
- Able to use information search and selection tools, prepare presentation materials and organise events and manage them.
- Able to persuade others and argue their opinion, draw up business documents.
- Able to observe the principles of professional ethics, observe occupational hygiene and safety requirements, be able to communicate in English.

From matriculation to ex matriculation, the student acquires the skills and competences appropriate to the program aims, tasks and learning outcomes and gains skills and competences that correspond to the qualification to be obtained - Programmer (APPROVED by the Order No. 145 of the Ministry of Education and Science of March 12, 2001 Amendments of December 29, 2003 No. 649, available at: <https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/ps0001.pdf>).

The enrolment requirements - secondary education, are in line with the programme's objective, objectives and learning outcomes, so that the student can begin the study process and obtain the education he or she desires.

III - DESCRIPTION OF THE STUDY PROGRAMME (2. The Content of Studies and Implementation Thereof)

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

The study program "Computer Systems" has been developed in accordance with the requirements of the labour market and includes courses necessary for the development and improvement of professional qualification. The content of the study courses is designed to provide students with the necessary knowledge on IT trends in programming and other general study courses, helping them to acquire the skills and competences necessary to pursue the profession of a programmer and be competitive in the labour market. The study courses included in the program are updated to include current issues in the field, supplemented with new theoretical concepts, as well as current IT issues, as well as taking into account changes in the regulatory framework.

The program is periodically reviewed with the involvement of students and other stakeholders.

Proposals for updating are made by the lecturers of the study courses, the program director, and the recommendations of the employers are appreciated.

The update of study courses is evaluated at the ITN meetings and ITN methodological seminars, where the academic staff, representatives of employers and the industry as well as students meet.

The topicality of the study program courses is based on industry trends, which is listened to from leading IT companies and is observed in the market demand for programmers. As already mentioned, this information is obtained from cooperation partners who are IT companies and determine the industry trends. An example is Accenture Latvia's continuous BootCamp (<https://bootcamp.accenture.lv>) activities, which are provided at least 3 times a year with Java / Software engineering, which are always completed and consist of at least 25 participants. After such activities, most of them are offered internships, which are paid and the student is able to get paid. Also, one of the other indications is the www.CV.lv portal, which is the job advertisement

portal No.1 in the territory of Latvia. Looking at this portal, one can observe the trend that programmers in the field of IT need an average of ~ 400 vacancies. If you compare it with "Finance / Accounting" and "Banking / Insurance" it is about twice less. Going into the relevant industry, we can see the distribution that in the IT sector, in the Java programming language, ~ 60 vacancies are needed. Specifically, speculating with this data, we can say that ~ 15% of all IT vacancies require knowledge of the Java programming language. Also, it should be noted that other programming languages such as "C#" and "Python" are provided in the study program "Computer Systems". They can also look at this site and see that ".NET", which is a platform that provides "C#" programming language, the portal's search results represent ~ 100 vacancies. As it is mentioned, the "Python" programming language results in ~ 30 vacancies. With the help of a good analysis, we can count a total of $60 + 100 + 30$, which makes up ~ 190 vacancies out of ~ 400, which makes up ~ 47.5% of all vacancies in the IT sphere. Based on these data, it can be stated that the study program "Computer Systems" is relevant according to the industry trends.

The interconnection of the study courses of the study program ensures gradual and systematic acquisition of study courses. In the first year of study, the student in the first semester acquires the following subjects: "Software Development Fundamentals 1, Java", "English 1", "Mathematics", "Introduction to Computer Architecture, Software Engineering and Computer Systems", "Latvian Language 1", "Design Thinking in the IT Industry". Each of these subjects is very important for a successful and good understanding of the IT field as such. Also, be able to orientate oneself in the basics of computer architecture and software engineering and computer systems and the general perception of computer processes. A programming language allows you to get to know its basics and start by understanding what it really is and how it can be used. Of course, without logical thinking and critical thinking it is not possible to design programs and their solutions well and successfully, both subjects like "Mathematics" and "Design Thinking in the IT Industry" help in this regard. Improving the English language is justified because the studies are conducted in English and the IT field is directly subordinated to English terms. Critical thinking is also formed by a supplementary course, which is based on the principles of mathematics and also on the basics of programming, able to improve better programming skills already after the first semester. In the first year of study, the student acquires the following subjects in the second semester: "Software Development Fundamentals 2, Java", "Software Testing and Quality", "Professional Vocabulary (in English) 2", "Object-Oriented Programming", "Linear Algebra and Analytical Geometry", "Civil and Environmental Protection", "Algorithms, Data Structures and Complexity", "Course Work". Each of these study courses provides a reasonable supplement to the knowledge based on the previous semester or the first semester. The basics of programming that continue in the Java programming language are strengthened by at least 50% in complexity and contact hours to make the improvement in the programming language more effective. Also, in order to be able to understand the correct programming style, such subjects as "Automatic software testing and quality", "Object-Oriented programming", "Algorithms, Data Structures and Complexity" are taught. They raise awareness of a quality programming style that can be automated and tested for proper program execution. The choice of correct algorithms and accurate data structure selection makes the programming style and software efficiency increase. "Object-Oriented programming" allows you to learn about the interaction of objects and the basics of effective software. At the end of the second semester, students are able to reflect their knowledge in the "Course Work", during the development of which all the acquired knowledge of the first study year is evaluated in a single document and in the development of a single solution.

In the second study year, the student acquires the following subjects in the first semester: "Pre-qualification work practice", "Software Development Fundamentals 3", "Labor law". One of the most important is a 16-week internship in an IT company, during which the student is able to get to know the IT company and understand the processes that take place in such a company. Supplement your

knowledge with a new programming language "C#", which increases the scope of programming and opportunities in the labor market. In the second study year, the student acquires the following subjects in the second semester: "Qualification work", "Enterprise Continuous Application Software Integration", "Software Development Fundamentals 4", "Business", "Database Systems", "Computer graphics and image processing". The student has the opportunity to choose from Part C two subjects that will be able to improve knowledge of a particular field. One of the most important stages is the "Qualification Work", which should be developed as a State Examination. The last semester also includes "Database Systems", which allow you to understand how databases work and how they can be linked to programming languages and their use.

2.2. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators, the relation between the aims of the study course/ module and the aims and intended outcomes of the study programme. In case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels.

The aim and tasks of each study course are related to the goal of the overall program (to educate and train the student to work as a programmer, promoting his/her development into a mentally and physically developed, free, responsible and creative personality, to provide the opportunity to gain the knowledge and develop skills necessary for programmer to successfully develop the IT enterprise and promote its competitiveness in an active IT business environment in the Latvian and international market.) , tasks and learning outcomes providing students with the knowledge, skills and competences required to work professionally within the scope of their competences in accordance with their duties.

The aim of each study course is to contribute appropriately to the achievement of the overall aim of the study program. The goals of both compulsory and optional study courses are subordinated to the goal of the program - to educate and train students for work in the profession of a programming specialist - by developing knowledge, skills and competencies. It could be concluded that the planned learning outcomes of the study courses correspond to the planned learning outcomes of the study program and allow to develop the competencies defined in the professional standard of a specialist - programmer, and to create a knowledge base. This is also confirmed by the comparison in Appendices 4 and 5.

The most up-to-date information in the field is included in the study courses. The information included in the study courses does not overlap, but complement each other throughout the study period.

The study courses include information that promotes general, professional and transversal skills of students from the moment of matriculation to ex-matriculation, in accordance with the goals, tasks set for the program and the learning outcomes to be achieved. The study courses enable the acquisition of skills and competences corresponding to the acquired qualification - a programmer.

The interconnection of the study courses of the study program ensures gradual and systematic acquisition of study courses. In the first year of study, the student in the first semester acquires the following subjects: "Software Development Fundamentals 1, Java", "English 1", "Mathematics", "Introduction to Computer Architecture, Software Engineering and Computer Systems", "Latvian Language 1", "Design Thinking in the IT Industry". Each of these subjects is very important for a

successful and good understanding of the IT field as such. Also, be able to orientate oneself in the basics of computer architecture and software engineering and computer systems and the general perception of computer processes. A programming language allows you to get to know its basics and start by understanding what it really is and how it can be used. Of course, without logical thinking and critical thinking it is not possible to design programs and their solutions well and successfully, both subjects like "Mathematics" and "Design Thinking in the IT Industry" help in this regard. Improving the English language is justified because the studies are conducted in English and the IT field is directly subordinated to English terms. Critical thinking is also formed by a supplementary course, which is based on the principles of mathematics and also on the basics of programming, able to improve better programming skills already after the first semester. In the first year of study, the student acquires the following subjects in the second semester: "Software Development Fundamentals 2, Java", "Software Testing and Quality", "Professional Vocabulary (in English) 2", "Object-Oriented Programming", "Linear Algebra and Analytical Geometry", "Civil and Environmental Protection", "Algorithms, Data Structures and Complexity", "Course Work". Each of these study courses provides a reasonable supplement to the knowledge based on the previous semester or the first semester. The basics of programming that continue in the Java programming language are strengthened by at least 50% in complexity and contact hours to make the improvement in the programming language more effective. Also, in order to be able to understand the correct programming style, such subjects as "Automatic software testing and quality", "Object-Oriented programming", "Algorithms, Data Structures and Complexity" are taught. They raise awareness of a quality programming style that can be automated and tested for proper program execution. The choice of correct algorithms and accurate data structure selection makes the programming style and software efficiency increase. "Object-Oriented programming" allows you to learn about the interaction of objects and the basics of effective software. At the end of the second semester, students are able to reflect their knowledge in the "Course Work", during the development of which all the acquired knowledge of the first study year is evaluated in a single document and in the development of a single solution.

In the second study year, the student acquires the following subjects in the first semester: "Pre-qualification work practice", "Software Development Fundamentals 3", "Labor law". One of the most important is a 16-week internship in an IT company, during which the student is able to get to know the IT company and understand the processes that take place in such a company. Supplement your knowledge with a new programming language "C#", which increases the scope of programming and opportunities in the labor market. In the second study year, the student acquires the following subjects in the second semester: "Qualification work", "Enterprise Continuous Application Software Integration", "Software Development Fundamentals 4", "Business", "Database Systems", "Computer graphics and image processing". The student has the opportunity to choose from Part C two subjects that will be able to improve knowledge of a particular field. One of the most important stages is the "Qualification Work", which should be developed as a State Examination. The last semester also includes "Database Systems", which allow you to understand how databases work and how they can be linked to programming languages and their use.

2.3. Assessment of the study implementation methods (including the evaluation methods) by providing the analysis of how the study implementation methods (including the evaluation methods) used in the study courses/ modules are selected, what they are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

The problem solving method allows to develop practical skills, such as performing independent programming in Java.

In each study course the lecturer chooses the most appropriate teaching method that best contributes to the achievement of the learning outcomes of the study course and the whole study program. All study methods can be used in one course.

In accordance with the basic principles of student-centred education, the requirements, the results i.e. the final grade, percentage distribution (weightage) for the study courses are clearly defined. Lecturers regularly evaluate and improve study course teaching methods, promote student autonomy simultaneously ensuring educator supervision and support as well.

Educators follow the implementation of student-centred teaching and learning in their work process, taking into account and respecting the diversity of students and their needs; using various learning pathways that are appropriate to the students' capabilities by implementing programs in different ways and providing opportunities to tailor works and assignments according to their own knowledge. In addition, where appropriate, a diverse pedagogical approach, derived from seminars and active education in the design of scientific papers and participation in scientific conferences, is used. Educators encourage learners to become independent while at the same time providing guidance and support, and promote mutual respect between learners and educators.

In case of need, Turiba has appropriate procedures for resolving student complaints. (described in the Study Regulations). Given the importance of assessment for student advancement in studies and future careers, quality assurance procedures for student assessment take into account the following:

The assessors are familiar with assessment and assessment methods and receive support for the development of their skills in this field;

- The assessment criteria and methods, as well as the criteria for awarding marks, are made public in advance;
- Assessment gives students the opportunity to demonstrate the extent to which they have achieved the expected learning outcomes.
- Students receive feedback and if necessary receive guidance related to the learning process;
- Whenever possible, more than one examiner will conduct the assessment;
- The assessment regulations take into account various circumstances that facilitate student learning;
- The assessment is consistent, fair to all students and implemented according to approved procedures;

There is a procedure for reviewing student appeals.

2.4. If the study programme entails a traineeship, provide the analysis and assessment of the relation between the tasks of the traineeship included in the study programme and the learning outcomes of the study programme. Specify how the higher education institution/ college supports the students within the study programme regarding the fulfilment of the tasks set for students during the traineeship.

In order to achieve the expected learning outcomes of the study program and to encourage students to acquire the skills and competences necessary for the profession of a programmer, the content of the program envisages practice of 16 CP, which consists of Pre-qualification work practice.

The task of practice work is to consolidate theoretical and practical knowledge in programming. The internship (practice) allows to develop skills in IT programming, the factors influencing them, to independently analyse information and IT process (at the practice enterprise), to acquire new knowledge about programming languages and IT processes and their functions in an IT company.

Practice enables students to develop the following competencies:

- To strengthen theoretical knowledge about programming and its use in a real life company;
- Demonstrate knowledge and skills in programming and drafting reports;
- Demonstrate the ability to perform independent information analysis and compare the problem of the company under research with the solutions available;
- Ability to provide sound recommendations and suggestions for improving the performance of the IT company.

This corresponds to the aims and objectives of the program and enables developing the competences needed for the profession of a programmer.

The student, through practice, acquires and strengthens the theoretical knowledge acquired during the study courses. Theoretical knowledge is systematized, strengthened and expanded through practical work. Student would be able to make knowledge based decisions. Student would become creative and innovative, would be able to define problems and offer definite measures and models to resolve the problems.

Within the limits of its competence, Turiba shall support the student in the achievement of the tasks set within the framework of the internship by appointing an individual practice supervisor from Turiba, who provides the student with support in performing the internship tasks.

Students have the opportunity to do practice at a place of their choice, but Turiba has also signed cooperation agreements with companies to provide practice placements. Students can contact the program director, who will be able to outline the relevant practice placements that are available in collaboration with Turiba partners.

2.5. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the evaluations of the final theses.

The students work out the final qualification paper on topical and important areas and topics related to practice.

The Qualification paper provides students the opportunity to learn the necessary knowledge, acquire skills and achieve the competences required to acquire the profession of a programmer (code - 2512 05). This is also one of the main overarching goals when planning the topic of the work, the research objects, and the respective supervisors also provide support during the planning process.

The appendix includes:

- List of final thesis topics (example: *IntelliJ IDEA Plug-In Development, Debugging a Functional Logic Programming Language, Provably Sound Nullness Analysis of Java Code, Design and development of a programming language for constrained resource allocation, File dependencies in a disintegrated development environment*);
- Table on the compliance of the study program with the state education standards (Appendix 3);
- Table on the compliance of the qualification obtained in the study program "Marketing and Sales" with the profession standards (Appendix 4);
- study course scheme for achieving the learning outcomes (Appendix 5);
- Study program plan (Appendix 6);
- Syllabi of the study courses in the study program (Appendix 7).

2.6. Analysis and assessment of the outcomes of the surveys conducted among the students, graduates, and employers, and the use of these outcomes for the improvement of the content and quality of studies by providing the respective examples.

In order to improve the study process and environment, and to evaluate the study content, BAT regularly conducts student surveys. ITN feedback from employers on the knowledge and skills of students of the implemented programs and their suitability for the requirements of the labor market.

Currently, the results of the student survey have not been summarized, because the 1st study year has just started.

On the recommendation of Accenture Latvia, the study course "Enterprise Continuous Application Software Integration" is being implemented.

2.7. Provide the assessment of the options of the incoming and outgoing mobility of the students, the dynamics of the number of the used opportunities, and the recognition of the study courses acquired during the mobility.

Each academic year, the ITN receives information from the International Department regarding the opportunities for students and lecturers to use the Erasmus+ mobility program offers for the respective academic year.

Outgoing student mobility

| | <i>Title of the study programme</i> | 2020/2021 |
|-----------------------------|------------------------------------------------------------------------|-----------|
| 41484 | First level professional higher education programme „Computer Systems” | |
| Erasmus+ studies | | 0 |
| Erasmus+ practice placement | | 0 |

The main reasons for low mobility are as follows:

- the study programme was started during the academic year 2020/2021.

Mobility and recognition of study courses undertaken during mobility shall be in accordance with the provisions of the Erasmus + mobility program.^[1] A procedure has been set for students to agree with the partner universities and faculties on the study courses to be taken (taking into account the study courses implemented in the program) prior to the mobility, and to conclude a study agreement. Upon completion of the mobility, the student submits a transcript of records of the courses completed at the partner institution of higher education; successfully completed study courses, in their entirety, are transferred with the grade "passed" on the basis of the dean's decree.

^[1] Regulations on Erasmus + mobility program (APPROVED at the Turiba Senate meeting on 22.05.2019, Minutes No. 5)

III - DESCRIPTION OF THE STUDY PROGRAMME (3. Resources and Provision of the Study Programme)

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

The existing material technical base allows to fully provide for the study courses included in the study program, based on information provided in the criteria 3.1 to 3.3 in section 3 of Part II. Lectures take place in conference rooms, classrooms, computer rooms, and students have access to a modern library with a large reading room. The lecture rooms are equipped with high quality visual equipment – white boards, screens, multimedia projectors, audio and video equipment. Students have Access to computer workstations. Stationary and portable multimedia projectors are available. The classrooms and common areas are maintained by the university's housekeeping service department, which regularly cleans and ventilates the premises.

Every year Turiba invests in proportion to the growth in the number of students in the development of library technologies, the acquisition of databases and the collection of the latest literature. The list of required literature is updated annually according to the wishes of the academic staff and students.

Library of Turība University

The Library is a structural unit of Turība - a publicly accessible library that holds and maintains information resources for academic and research activities.

The library provides library users with information resources and services necessary for the study process and scientific activities; develops and supplements the Library Collection and Library Information System (BIS) "Alise" with the latest, up-to-date information resources in cooperation with the faculties, departments, etc. structural units according to the directions of scientific work of the higher education institution and requirements of study programs.

The library's electronic catalogue: <https://w3i.turiba.lv/Alise/en/home.aspx>

In the field of Information Technology, according to the UDC (Universal Decimal Classification), the library has sections where literature on this topic is available both in Latvian and in foreign languages.

UDC sections of computer science

| | | |
|-------------|---------------------------------------------------|------------------------------------------------------------------------|
| 004 | Datortehnika. Programmnošķinājums | <i>Computer science and technology. Computing. Data processing</i> |
| 044 (03) | Datortehnikas vārdnīca, rokasgrāmatas | <i>Dictionaries and handbooks of computer engineering</i> |
| 004.4 | Programmatūra | <i>Software</i> |
| 004.43 | Programming languages | <i>Programming languages</i> |
| 004.6 | Dati. Datu bāzes | <i>Data and data bases</i> |
| 004.7 | Tīkli. Lokālais tīkls. Ārējie tīkli. Internets | <i>Computer communication. Computer networks</i> |

The library fund (as of 17.01.2020) consists of 53,723 copies of books, in the field of information technology - 263 titles (1296 copies) of books.

The library provides the library collection, incl. availability of electronic databases for independent studies and research; organizes and provides library and bibliographic services, modernizing and extending the quality of services provided. The University subscribes to online electronic databases: Scopus, ScienceDirect, LETA. Nozare.lv., Letonika, Lursoft, EBSCO Academic Search Complete, EBSCO eBooks Academic Subscription Collection, EBSCO Business Source Complete, also constantly providing students the opportunity to use trial databases: <https://www.turiba.lv/en/library/online-databases>

The library provides users with a comfortable and work-friendly environment. Extensive collection of free-access books - subscription with user-accessible electronic catalogue, library reading room with latest press issues. The library has 182 workstations out of which 59 are computer workstations. The library offers a variety of library services to students and other users of the library: <https://www.turiba.lv/storage/files/bibliotekas-pakalpojumu-cenradis2020.pdf>

Turība invests annually in supplementing the library's information resources (both for purchasing literature and subscribing to electronic databases). Turība University Library is a member of LATABA

(Latvian Academic Library Association).

An agreement has been concluded with RTU on cooperation in the use of library information resources. The agreement will enable students of the Turība study direction and the study program "Computer Systems" to use the information resources in the resources of the RTU Scientific Library.

Due to the large amount of information, it is included only in the electronic version of the study program "Computer Systems".

Turība University premises, computer classes and Information system

Turība is located in Riga on Graudu Street 68, and occupies a territory with an area of 35,372 m². The university can simultaneously host 2,756 students in terms of the provision of study premises. All Turība buildings belong to the university as can be seen from the Land Register entry on September 16, 1996. According to the Law of the Saeima of the Republic of Latvia dated November 4, 1995, Turība is included in the list of educational objects of national significance. The university campus includes 2 study buildings, a youth hostel for students, two canteens and a parking lot.

All necessary conditions/environment for studies are present – spacious conference halls, lecture halls, computer classes, laboratories and classrooms and modern library with a spacious reading room. The lecture rooms are equipped with high quality visual equipment – white boards, OHTs and screens, multimedia projectors, audio and video equipment. Lectures take place in spacious conference halls, lecture halls, computer rooms, and students have access to a modern library with a large reading room. The lecture halls are equipped with high quality visual equipment – white boards, OHTs and screens, multimedia projectors, audio and video equipment. Students have access to 164 computerised workstations. 30 stationary multimedia projectors have been installed and 2 portable ones are available as well. The lecture halls and common areas are maintained by the university's housekeeping service department, which regularly cleans and ventilates the premises.

Since 2013, a modernized Business Incubator has been in operation, where Turība students and graduates can set up their own companies. Students have access to computer workstations. 28 stationary multimedia projectors have been installed and 2 portable ones are available as well. Free Wi-Fi is available all over the Turība university campus. For the convenience of students, a Turība information system (BATIS) has been created, in which every student can follow their progress, see descriptions of study courses and study materials, receive the most important information regarding the study process, as well as electronically apply for various testimonials and permits.

Turība has its own IT systems department, which ensures the operation of the IT environment. The technical service ensures the operation of computer equipment and computer network, programmers - operation and development of Turība's internal information system (IS) and BATIS.

Turība has three computer classes: 29, 30, 37 student work stations + lecturer's workstation with projector. The reading room has 60 computers for students' independent work. The JTM computer room has 12 computers for students' independent work. 25 lecture halls are equipped with a multimedia projector and a computer (excluding small ones where there is only a computer or a computer + TV). MS Windows operating system and MS Office have been installed on all computers. Computer specification in classrooms and reading room - Intel 4xcoreI5 / 4GB RAM. All computers are connected to a network with Internet and Intranet access.

MS Office, - MS Windows, MS Office is available for students and employees for studies or work. Data storage and user authentication is provided using MS Windows and Novel OES servers. The IS developed by the Turība IT department is used to ensure the study process. Turība subscribes to "MS IT Academy".

Additional software includes SPSS, Fidelio, CorelDraw, UVFam - Zalktis, MS Project. The Moodle environment is used in the e-learning process. Library functions are provided by ALISE software.

A computer class was equipped with new hardware for the academic year 2019/2020. These included 23 new computers with respective specifications: "HP ProDesk 600 G4 / i5 8500 3.0 2666MHz 6C / 8GB DDR4 2666 / 128GB SSD HDD" and new monitors with the respective specifications: "HP P224 - LED monitor - 21.5" (21.5" viewable) - 1920 x 1080 Full HD". Two projectors were installed as well: "Maxell MC-EU5001 (WUXGA, 5000Lm)". Software licenses were bought for "JetBrains Toolbox", and a lease agreement for "Microsoft Office 2013".

3.2. Assessment of the study provision and scientific support, including the resources provided within the cooperation with other science institutes and institutions of higher education (applicable to the doctoral study programmes).

III - DESCRIPTION OF THE STUDY PROGRAMME (4. Teaching Staff)

4.1. Analysis and assessment of the changes to the composition of the teaching staff over the reporting period and their impact on the study quality.

In 2020, 3 professors and 2 lecturers have been elected, the report of the previous year is not available, because the study program has started to be implemented in 2020/2021.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the learning outcomes.

Recruitment of the academic staff:

- In order to create an academic environment corresponding to the requirements of higher education and in accordance with the procedures specified by Turiba scientific and academic staff are recruited, and their further qualification is organised as well;
- The loyalty of the academic staff and employees is promoted by motivating them to increase the quality of work by presenting awards, expressing recognition, creating various social and cultural events and, as far as possible, material stimulation.

Cooperation with other HEIs:

- development of co-operation with foreign higher education institutions in order to conclude co-operation agreements on the establishment of joint study programs and co-operation in the field of scientific research;
- regular analysis of the study processes related to the ICT sector in the context of the achievements of other higher education institutions, search for opportunities to enhance the quality of studies;
- regularly invite guest lecturers;
- regular use of lectures by visiting professors, webinars to inform students about the world of computer science and the EU, to expand competencies at the international level;
- cooperation with other Latvian higher education institutions;
- to stimulate students' cooperation with secondary schools.

Mobility of academic staff and students:

- Cooperation with other HEIs including foreign HEIs is further developed by concluding agreements on student and educator exchange opportunities;
- Lecturers and students are encouraged to participate in the "Erasmus" program, giving lectures and through the participation of one lecturer in the exchange of experience under the Erasmus program.

Turība's elected academic staff will participate in the implementation of the first level professional higher study process: doctors of sciences - professors, associate professors, assistant professors and lecturers, leading researchers and researchers of the Business Technology Institute (BTI), and invited visiting professors and guest lecturers from other Latvian universities as well.

Of the 12 lecturers involved in the field of study. 4 of them elected. 8 of them are visiting teachers. 2 of them lecturers. 6 of them are guest lecturers. 2 of them are professors. 1 of them is a visiting professor. 1 of them is a guest assistant.

4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of the doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals may be additionally specified (if applicable).

4.4. Information on the participation of the academic staff, involved in the implementation of the doctoral study programme, in scientific projects as project managers or prime contractors/ subproject managers/ leading researchers by specifying the name of the relevant project, as well as the source and the amount of the funding. Provide information on the reporting period (if applicable).

4.5. Provide examples of the involvement of the academic staff in the scientific research and/or artistic creation activities both at national and at international level (in the fields related to the content of the study programme), as well as the use of the obtained information in the study process.

Involvement of program lecturers in scientific research is realized as follows: participation in scientific and practical research, projects, conferences, publishing of monographs.

At Turība annual international scientific conferences, lecturers participate with their research and encourage student participation, participate in the organization of section work, and the ITN is responsible for organizing the 2021 conference. The lecturers also take an active part in international conferences held abroad and in other higher education institutions of Latvia.

Research directions and topics of the lecturers:

1. J.Pekša - URP systems, operations research, forecasting methods, data analysis and data sources.
2. Competitiveness factors, economic cooperation in the context of Latvia-China.
3. P.Morevs - mathematical analysis.
4. M.Žigunovs - software engineering.
5. R. Zvirgzdiņa - SME development in Latvia;

Some examples

- Bulis, A., Kabiraj, S., Siddik, N.A. (2019). Competitiveness Impedimental Factors of Latvian Manufacturing Companies in China, *Global Business Review*, First Published January 30, 2019.
- Morevs, P., Rimshans, J.S. and Guseynov, S.E., 2011. Nodal Numerical 2D Helmholtz Equation: Truncation Analysis. In *Advanced Materials Research* (Vol. 222, pp. 345-348). Trans Tech Publications Ltd.
- Karakozov, S.D., Khudzhina, M.V., Gorlov, S.I., Morevs, P., Dzhambetov, E.M. and Butko, Y.Y., 2019. TRAINING OF IT-SPECIALISTS IN RUSSIAN AND EUROPEAN HIGHER EDUCATION: A COMPARATIVE STUDY. In *icCSBs 2019-The Annual International Conference on Cognitive-Social, and Behavioural Sciences* (pp. 181-190).
- Mackare, K., Jansone, A. and Žigunovs, M., 2018, October. E-material creating and formatting application. In *International Conference on Human Systems Engineering and Design: Future Trends and Applications* (pp. 135-140). Springer, Cham.
- Žigunovs, M., Iltiņš, I. and Radin, M.A., 2016. The Solution of the Heat Conduction Equation in 3D Anisotropic Environment and Possibilities of its Improvement. *Boundary Field Problems and Computer Simulation*, 55, pp.34-39.
- Peksa, J., 2020, August. Autonomous Data-driven Integration Algorithm. In *Proceedings of the 2020 4th International Conference on Cloud and Big Data Computing* (pp. 63-67).
- Peksa, J., 2020. Prediction Framework with Kalman Filter Algorithm. *Information*, 11(7), p.358.
- Zvirgzdiņa R., Jeromanova-Maura S., Liniņa I. (2018). Social Enterprises In Baltic States. 4TH INTERNATIONAL CONFERENCE ON LIFELONG LEARNING AND LEADERSHIP FOR ALL (ICLEL 2018) Pages: 678-687. Database: ThomsonReuters WoS

More information on lecturers' participation in conferences, projects, scientific monographs, as well

as a list of publications can be found in the appendices of the evaluation of the study direction

Evaluating the scientific research activity during the reporting period it could be said that it has improved and lecturers are more actively involved in research and text books and monographs have been published.

The results of scientific research are integrated into the study process, the lecturers give examples in their study courses, analyse current issues and problems discovered. By their examples, lecturers stimulate students' interest in research and encourage students' participation in Turiba conferences.

4.6. Assessment of the cooperation between the teaching staff members by specifying the mechanisms used to promote the cooperation and ensure the interrelation between the study courses/ modules. Specify also the proportion of the number of the students and the teaching staff within the study programme (at the moment of the submission of the Self-Assessment Report).

Cooperation among lecturers should be considered successful. The provision of the study process involves lecturers from different faculties, which facilitates communication between the lecturers. Cooperation among lecturers is promoted through various seminars organized by the higher education institution for the improvement of lecturers' qualification, as well as within the ESF project No. 8.2.0/18/A019, wherein lecturers have the opportunity to participate in master classes, such as the use of state-of-the-art IT and digital solutions for educators of the IT industry, academic English for work with international students, thereby gaining additional knowledge, discussing/exchanging their experiences and strengthening their collaboration as well.

Annual strategic seminars are organized, where lecturers work in groups to find solutions for different situations and to discuss possibilities of study process development and improvement.

The lecturers' cooperation is strengthened by annual scientific conferences, which provide an opportunity to discuss different issues, to find common interests, but in organizing student section work, lecturers from different departments/faculties work in teams to evaluate student research.

The lecturers' cooperation also allows to ensure better link between the study courses.

Ratio of students and educators in the study programme

| Criteria | 2020/2021 |
|-------------------------------------------------------------|------------------|
| Number of students | 6 |
| No. of educators | 12 |
| Educators of the department implementing the program | 6 |
| Educators of other faculties | 6 |

Ratio of students to teaching staff

0.5

Annexes

| III. Description of the Study Programme - 1. Indicators Describing the Study Programme | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table) | | |
| Statistics on the students over the reporting period | 1_Statistika_studenti_KC_EN.docx | 1_Statistika_studenti_KC_LV.docx |
| III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof | | |
| Compliance of the study programme with the State Education Standard | 2_Atbalstība_izglītības_standartam_KC_EN.docx | 2_Atbalstība_izglītības_standartam_KC_LV.docx |
| Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable) | 3_Atbalstība_profesijas_standartam_KC_EN.doc | 3_Atbalstība_profesijas_standartam_KC_LV.docx |
| Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable) | | |
| Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme | 4_Kartējums_KC_EN.xlsx | 4_Kartējums_KC_LV.xlsx |
| Curriculum of the study programme (for each type and form of the implementation of the study programme) | 5_Studiju_plāns_KC_EN.docx | 5_Studiju_plāns_KC_LV.docx |
| Descriptions of the study courses/ modules | 6_Studiju_kursu_apraksti_un_noteikumi_1.limenis_EN.pdf | 6_Studiju_kursu_apraksti_un_noteikumi_1.limenis_LV.pdf |
| Description of the Study Direction - Other mandatory attachments | | |
| Sample of the diploma to be issued for the acquisition of the study programme. | 7_Diploma_pielikums_KC_EN.docx | 7_Diploma_pielikums_KC_LV.docx |
| Description of the Study Programme - Other mandatory attachments | | |
| Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued | 8_Ligumi_par_turpinasanu_KC_EN.pdf | 8_Ligumi_par_turpinasanu_KC_LV.pdf |
| Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme | 9_Zaudejuma_apliecinajums_KC_EN.edoc | 9_Zaudejuma_apliecinajums_KC_LV.edoc |
| Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language. | 10_Mācībspēku_saraksts_KC_EN.edoc | 10_Mācībspēku_saraksts_KC_LV.edoc |
| If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree. | | |
| If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education | | |
| Sample (or samples) of the study agreement | 11_Studiju_ligums_KC_EN.docx | 11_Studiju_ligums_KC_LV.docx |
| If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education. | | |