

APPLICATION

Study field "Transport Services" for assessment

Study field	<i>Transport Services</i>
Title of the higher education institution	<i>Rīgas Tehniskā universitāte</i>
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Self-evaluation report

Study field "Transport Services"

Riga Technical University

Self-evaluation report	2
Study field	4
1. Information on the Higher Education Institution/College	4
2.1. Management of the Study Field	16
2.2. Efficiency of the Internal Quality Assurance System	35
2.3. Resources and Provision of the Study Field	46
2.4. Scientific Research and Artistic Creation	75
2.5. Cooperation and Internationalisation	86
2.6. Implementation of the Recommendations Received During the Previous Assessment Procedures	91
Annexes	93
Other annexes	95
Logistics (41840)	96
Study programme	99
3.1. Indicators Describing the Study Programme	99
3.2. The Content of Studies and Implementation Thereof	104
3.3. Resources and Provision of the Study Programme	112
3.4. Teaching Staff	115
Annexes	119
Logistics and Supply Chain Security (47840)	120
Study programme	124
3.1. Indicators Describing the Study Programme	124
3.2. The Content of Studies and Implementation Thereof	130
3.3. Resources and Provision of the Study Programme	140
3.4. Teaching Staff	143
Annexes	149

1. Information on the Higher Education Institution/College

1.1. Basic information on the higher education institution/ college and its strategic development fields,.

Riga Technical University was founded in 1862 as Riga Polytechnic, later Riga Polytechnic Institute, and is the oldest technical university in the Baltic States. Following the restoration of the Republic of Latvia in March 1990, Riga Polytechnic Institute was renamed Riga Technical University (RTU). Over years RTU has become the leading centre of higher engineering education and science in Latvia, obtained a positive assessment of international experts and has been accredited by the Supreme Education Council of the Republic of Latvia.

RTU values include sustainable development, quality, openness and cooperation, creativity, academic freedom, motivation to explore and discover.

Until 2024 there were nine faculties at RTU (Faculty of Architecture; Faculty of Civil Engineering; Faculty of Computer Science and Information Technology; Faculty of E-Learning Technologies and Humanities; Faculty of Electronics and Telecommunications; Faculty of Electrical and Environmental Engineering; Faculty of Engineering Economics and Management; Faculty of Mechanical Engineering, Transport and Aeronautics; Faculty of Materials Science and Applied Chemistry). Since 2024 an academic and scientific staff of approx. 1,200 people work at four faculties (Faculty of Construction and Mechanical Sciences, Faculty of Natural Sciences and Technologies, Faculty of Computer Science, Information Technology and Energy, as well as Faculty of Engineering Economics and Management), at the Institute of Architecture and Design, four RTU Study and Science Centres in Cēsis, Liepāja, Ventspils and Daugavpils, and structural unit Latvian Maritime Academy, carrying out high-quality academic activities and scientific research at a contemporary level. RTU is the second largest university in the Republic of Latvia in terms of student number and has educated and trained more than 160,000 graduates in total.

On 1 March 2024, Liepaja University was added to RTU, becoming as structural unit Liepaja Academy. With this addition, RTU took over several new study fields and study programmes.

RTU carries out active study and research work, acquiring new partners worldwide, working together on project implementation, student exchange and the development of joint study programmes. Active development of a student campus is underway in Ķīpsala, where new faculty buildings are being built, while those built during earlier years are getting a new look, modern content and design.

Many research and scientific projects are being carried out in cooperation with RTU partners, which result in both new patents and successful business activities. RTU successfully develops cooperation to strengthen its role in the development of higher engineering education in the world and in the development of Latvia.

RTU has defined its mission – we are building a competitive, educated, innovative and creative future, the vision – an internationally competitive, dynamic and modern university of science and technology.

Accredited RTU study fields and number of study programmes in May 2024:

Table 1.1.1.

Study field	Number of study programmes
Architecture and Construction	18
Economics	3
Energy, Electrical Engineering and Electrical Technologies	8
Physics, Materials Science, Mathematics and Statistics	5
Internal Security and Civil Defence	5
Information Technology, Computer Engineering, Electronics, Telecommunications, Computer Control and Computer Science	31
Chemistry, Chemical Technology and Biotechnology	5
Mechanics and Metalworking, Thermal Energy, Thermal Engineering and Mechanical Engineering	30
Manufacture and Processing	4
Translation	2
Management, Administration, Real Estate Management	25
Environment Protection	5
Transport Services	3
Education, Pedagogy and Sports	7
Arts	4
Social Welfare	2
Language and Culture Studies, Mother Tongue Studies, and Language Programmes	4
Health Care	1
Total:	162

* The study programme "Ports and Shipping Management" (classification code 42840) is not subject to re-accreditation. There are no more students in it, and the decision to close it will be taken together with the submission for accreditation of the study field.

The offer of RTU study programmes is in compliance with the forecasts with regard to the needs of

the labour market in both Europe and Latvia in the coming decade. RTU study programme offer ensures education and training of the specialists in information and communication technologies (ICT), engineering, management, services and humanities, for which a significant shortage in the labour market is predicted.

In recent years, the number of foreign students studying to obtain a degree or qualification in Latvia has increased. In addition, international student mobility growth is projected to continue also in the future. RTU has great opportunities to further increase the number of foreign students. It also provides an appropriate offer of RTU study programmes in English – 20 Bachelor study programmes, 30 Master study programmes, and 10 Doctoral study programmes, moreover, this list is updated from year to year.

Dynamics of the number of students in RTU during the evaluation period:

Table 1.1.2.

Academic year	Total number of students
2013/2014	14,452
2014/2015	14,797
2015/2016	14,997
2016/2017	14,672
2017/2018	14,322
2018/2019	14,383
2019/2020	14,006
2020/2021	13,237
2021/2022	13,326
2022/2023	12,570
2023./2024.	12,872*

* In March 2024 at RTU tentatively 9,609 studied at undergraduate study programmes, 2,822 studied at graduate Master degree programmes and 441 – at the Doctoral study programmes.

The guiding principle of RTU Strategy for 2023–2027 is the proactive link between the activity of the university and the needs of the national economy, focus on high quality and effectiveness. The basis for the activity of RTU is the study process built on science, innovation and in cooperation with the industry, which ensures preparation of specialists required by the Latvian national economy, thus serving as a foundation for sustainable growth of Latvia. RTU's strategy for the new programming period is a consecutive continuation of the previous strategy of the university for 2021–2025. It has been developed in compliance with the objectives and priorities defined in Latvian development planning documents.

According to the [National Development Plan for 2021-2027 of Latvia](#), fundamental changes are planned in the near future in four directions – Equal Rights, Quality of Life, Knowledge Society, and Responsible Latvia, in the achievement of which a high-quality study process, excellent research, as well as sustainable innovation and commercialization activities play an important role, which are important elements in RTU's vision to become an internationally competitive, dynamic and modern university of science and technology.

Keynote of the RTU Strategy: High quality and effectiveness – proactive link between the activity of RTU and the needs of the national economy. RTU is one of the leading science and technology universities of the Baltic and Nordic region, which is acting based on a study system built on research, innovation and cooperation with the industry. RTU prepares European and global-level engineers – leaders: developers of new technologies.

In order to implement RTU's vision to become an internationally competitive, dynamic and modern university of science and technology, RTU's strategy defines four main objectives for the next programming period, three of which are related to the implementation of basic university functions: excellent science, quality studies and sustainable valorisation. The fourth, institutional excellence, is related to the university support function and the development of internal governance in the six areas: digitalisation, sustainable development, effective financial and administrative action, internationalisation, communication and cooperation, human resources development. For all the objectives identified in the strategy define specific tasks to be performed and result indicators to make it possible to follow the implementation of the strategy so that RTU can realise its vision.

The implementation of the RTU Strategy is approved by a decision of the RTU Senate. Following the approval of the Strategy, RTU Rector once a year ensures definition of the annual RTU aims and tasks with clear performance indicators set at the level of each RTU unit. RTU Strategy is implemented, and the results achieved are analysed annually with regard to the defined tasks.

RTU Strategy is published at <https://www.rtu.lv/en/university/strategy>.

1.2. Description of the management structure 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.

The structure and administration of RTU are established in compliance with the University vision, mission and objectives and taking into account the specifics of the University management. The administrative structure is based on a decentralized decision-making process and obligations arising from the Law on the Higher Education Institutions, the Constitution of RTU, resolutions of RTU Senate, the orders issued by the Rector, as well as other RTU documents. The functions of various organizational units have been approved in their regulations approved by the Senate.

On 16 August 2021, the amending laws to the Law on Higher Education Institutions entered into force, which envisages changes in the internal management model and the procedure for electing rector, as well as defines a new typology of higher education institutions, setting specific eligibility criteria for each type. According to the new typology, RTU corresponds to the status of a university of science. Changes in the Law on Higher Education Institutions are one of the most important steps to create a modern, effectively managed higher education system in Latvia, based on science and research, oriented towards excellence, being internationally competitive and stimulating the

country's economic development.

In view of this, during RTU is continuing a change process. On 31 August 2021, the new regulations of the RTU Senate were approved, on 20 September 2021 the new RTU Senate was elected. The RTU's Council was established in March 2022, a new Constitutional Assembly and a new Constitution was adopted on 24 May 2022. From the management point of view, the changes included in the amendments to the law concern the election process of a rector, the appointment/dismissal of deans, the establishment / reorganization of structural units based on the proposal of the rector, which now is decided by the order of RTU Council.

The council of the higher education institution is a collegial highest decision-making body responsible for the sustainable development, strategic and financial supervision of the university, but the senate will be responsible for the development of university's studies and scientific processes. The council must also ensure the operation of the state higher education institution in accordance with the goals set in its development strategy. The RTU Council consists of five representatives nominated by the RTU Senate, five external representatives of society or industry, who are not professionally related to the university, but whose presence allows the university to respond more flexibly to external changes and expand its strategic vision. The election of external representatives takes place in accordance with the regulations approved by the Cabinet, which ensures the transparency and political neutrality of the process. The council also has a representative nominated by the President of Latvia, thus facilitating strategical focus of the university according to development goals of the state.

Overall, RTU management can be divided into three levels: university level, administration level and faculty level.

At the University level, there is the Constitutional Assembly (200 representatives – 120 academic personnel representatives (60% of the total number), 40 student representatives (20% of the total number) and 40 general staff representatives (20% of the total number). The Assembly includes all 35 members of the RTU Senate, the other 165 members are elected by the central administration, faculties, and institutes that are not part of the faculties, study and science centres and the students' self-government in the amount to ensure proportional representation. The conditions for the formation of the Assembly are defined in Part II of the RTU Constitution (see the file of Annex 01 of the List of Internal regulations).

There are 35 senators in the Senate, of which 27 are representatives of the academic staff (not less than 75% of the representatives, including at least 14 professors or associate professors – not less than 50% of the total number of senators), seven students (not less than 20% of the total number of senators) and the Rector is a member of the Senate in accordance with the position. The conditions for the election of the representatives of the Senate are defined in the attached Article 7 of the Regulation of the Senate of RTU (see the file of Annex 02 of the List of Internal regulations).

RTU Scientific Council, which consists of Deputy Deans in for research, Vice-Rector for Research, Deputy Vice-Rector for Research; and representatives of doctoral students; the Rector, Vice-Rector for Academic Affairs, Vice- Rector for Strategic Development, Vice-Rector for Finance, and the Chair of the Senate also have the rights of membership of the Council.

At the level of administration, the operational management of the university is exercised by the Rector, whereas the Board of the Rector plays an advisory role in the adoption of such decisions, with the participation of the Rector, Chair of the Senate, Vice-Rectors, Administrative Director, Deputy Rector for Digital Transformation, Deputy Rector for International Academic Cooperation and Studies, Director of the Legal Department, Director of Infrastructure Development Department, President of the Student Parliament; the Deans Council comprising the Rector, Deans, directors of

studies and research centres, Director of Riga Business School, Chair of the Senate, Vice-Rectors, Deputy Rector for International Academic Cooperation and Studies, Director of Infrastructure Development Department, President of the Student Parliament; operational management meetings uniting the Rector, Administrative Director, Deputy Vice-Rector for Research in Scientific Work, the heads of administrative departments (department directors, unit managers). At the faculty level, the highest decision-making bodies are faculty councils whose composition depends on the size of the faculty.

External partners and stakeholders are involved in the University management through the RTU Advisory Board (27 members). It provides an opportunity to receive independent opinion on important issues and possible solutions from various perspectives. Each faculty also has its own Advisory Board, which provides its own vision for improving the supply of study programmes in line with sectoral needs and market trends.

Each faculty also has its own student self-government, while RTU Student Parliament coordinates faculty student self-governments. Students are represented in all RTU decision-making bodies and can therefore participate in the University strategic decision-making.

The Rector, Vice-Rector for Research, Vice-Rector for Academic Affairs, Vice-Rector for Finance and Vice-Rector for Strategic Development are the senior officials of RTU. The Rector implements the general administrative management of RTU and represents RTU without a specific mandate. The Rector is elected by the Constitutional Assembly for a period of five years for no more than two consecutive terms for the same person. The Rector is elected, approved in office and removed from office pursuant to the regulatory enactments governing higher education institutions.

The operational management of RTU is exercised independently, in accordance with the delegation of the Rector, by the Vice-Rector for Research, Vice-Rector for Academic Affairs, Vice-Rector for Strategic Development and Finance, Vice-Rector for Innovation. The Senate elects the Vice-Rector for Research, Vice-Rector for Academic Affairs, Vice-Rector for Strategic Development and Finance based on the recommendation of the Rector for the term of office of the Rector. The Rector may also delegate certain functions to other RTU officials and, on the basis of the Rector's proposal; other Vice-Rector positions may be created by a Senate decision.

The Vice-Rector for Research supervises and is responsible for Doctoral study programmes and research work, including support to young researchers, research infrastructure, research funding, applied research, intellectual property protection, RTU scientific publications and scientific conferences. The Vice-Rector for Academic Affairs supervises and is responsible for the study process at the Bachelor, Master, first and second-level professional study programmes, further education, including training programs, security and quality assurance in studies, credit points, determination of academic staff positions and workload, as well as the selection and admission of students. The Vice-Rector for Strategic Development and Finance is responsible for the development strategy and its successful implementation, supervises the implementation of projects important for the development of RTU, and represents the interests of RTU in interaction with public authorities, partners and the public, for the financial management processes of RTU and for allocating and planning financial resources to ensure the functioning of RTU and implementation of the development strategy. The Vice-Rector for Innovation is responsible for proactive, clear and engaging cooperation with industry and partners, expansion of the ecosystem, involvement of academic staff and students in innovation value chains, including the creation of high-tech start-ups, as well as for the improvement of the support model and mechanisms for the involvement of students and staff in innovation in processes.

The accounting, study administration, science administration and human resources administration at the university are centralized. Other administrative processes, such as procurement and project

management, are centralized to the extent necessary to avoid institutional risks. At the same time, a decentralized management system has been provided at a high level at RTU, with a certain degree of autonomy for each academic unit. This means they have their own budget and self-governing structure, which allows defining and meeting the objectives of the organizational unit. This approach motivates the heads of departments to be proactive, to plan the development of the unit, and to apply for funding.

RTU governance structure information is published at
<https://www.rtu.lv/en/university/structure-and-administration>.

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. Description of the stakeholders involved in the development and improvement of the quality assurance system and their role in these processes.

RTU has established an internal quality management system that respects the standards of Part 1 of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

RTU internal quality management system works in line with the “Excellence approach” (approved on 30 January 2017 at the meeting of the RTU Senate, Minutes No 606), as well as the “RTU Quality Policy” (approved by the Senate on 25 September 2017, Minutes No 612).

The Quality Policy is focused on the implementation of the RTU mission and the achievement of the strategic objectives. The Quality Policy lays out the framework and pathways for development and improvements of the RTU Strategy, research, study process and organization. The University Quality Policy is aligned with the European Association for Quality Assurance in Higher Education (ENQA) standards and guidelines. The RTU Excellence Approach and quality policy are mutually integrated documents which require RTU to use the quality model of the European Foundation for Quality Management (EFQM). On 23 September 2022, RTU received an award – a four-star rating “Recognized by EFQM” after evaluating the quality management system implemented by the university. This recognition confirms that RTU has clearly defined the goals to be achieved in Latvia and abroad, is aware of and closely cooperates with partners in industry, the non-governmental and the governmental sector for the implementation of common goals, as well as has clearly visible trends of positive development and growth in the long term.

The EFQM quality model assumes cooperation with students, employees, partners, professional associations, student organizations, other higher education institutions, businesses and organizations. RTU maintains an open dialogue to explore the needs of the parties involved and to respond appropriately by developing feedback to day-to-day and long-term cooperation.

By establishing links with the stakeholders, the administration of RTU contributes to the development of excellence and ensures the clarity, unity, building of the work environment and diversity management of the objectives to be achieved.

RTU staff participates in quality assurance by providing suggestions and feedback to improve the RTU Quality Management System. The heads of RTU departments are responsible for carrying out internal quality assurance procedures and processes in their departments.

Based on the results of regular student and graduate surveys, improvements in the quality of the

study process are being planned.

Cooperation with partners, suppliers and other stakeholders takes place in accordance with the RTU Strategy, establishing appropriate cooperation networks and identifying appropriate policies, activities and processes for effective cooperation aimed at ensuring the quality of the RTU activities and acquisition of feedback. To ensure the topicality and continuous development of existing study programmes and before the introduction of new study programmes the interests of all stakeholders in modern and interdisciplinary technology education are considered.

External stakeholders (public authorities, cooperation partners, representatives of the public) assess the study process and its results in State Examinations, practical placements (internships) and accreditation, and contribute to improving the content and quality of study programmes.

More on this point is set out in Section 2.1.1.

RTU Excellence Approach is published at
<https://www.rtu.lv/en/university/strategy/rtu-excellence-approach>.

RTU Quality Policy is published at
https://www.rtu.lv/writable/public_files/https://www.rtu.lv/writable/editor_files/files/rtu_quality_policy_of_rtu.pdf (Also added to the file of Annex 03 of the List Internal regulations).

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 2(1) of the Law on Higher Education Institutions 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 justification.

1.	The higher education institution/ college has established a policy and procedures for assuring the quality of higher education.	In line with the quality management system introduced by RTU, process analysis and improvement are ongoing. Performance indicators and feedback - the results of the stakeholder surveys are analysed. The quality report data are compiled after the end of the academic year. Annual agreements on the target study process performance indicators are signed with the faculties; the quality is assessed by analysing the achievement of the defined objectives relative to the plan. For more details, see the 5th row of this table.
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2.	<p>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.</p>	<p>The development of study programmes takes place in accordance with the “Procedure for the application, elaboration and amendment of the study programmes” (approved at the Meeting of RTU Senate on 26 April 2021, Minutes No 649). The institutes implementing the study process, Faculty Councils, the Office of Vice-Rector for Academic Affairs, the Student Parliament and the Senate are involved in ensuring the internal study quality of RTU. These institutions carry out comprehensive assessment of the new study fields and study programmes, the changes to the study fields and programmes and the annual reports of the improvement of the study fields. At RTU, the operation of the internal quality assurance mechanism takes place at the level of the Rectorate, faculties, study fields and study programmes. At the level of the Rectorate, the internal study quality control of RTU is carried out by the Office of Vice-Rector for Academic Affairs. The Study Department performs: (1) the maintenance and control of the Study Programme Register, which involves control of the conformity of the study curriculum to the aims, tasks and learning outcomes of the study programme, as well as the control of changes; (2) maintenance and control of the Study Course Register, which involves control of the conformity of study course descriptions with the learning outcomes, as well as quality control of study course descriptions; (3) periodical student polling at the University level.</p>
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3.	<p>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.</p>	<p>The evaluation of learning outcomes takes place in accordance with the "Regulation on the Assessment of Learning Outcomes" (approved at the Meeting of RTU Senate on 30 May 2022, Minutes No 663) (see the file of Annex 06 of the List of Internal regulations) and "Regulation on Final Examinations at RTU" (approved at the Meeting of RTU Senate on 26 April 2021, Minutes No 649) (see the file of Annex 08 of the List of Internal regulations).</p> <p>Regulation on the Assessment of Learning Outcomes states that the process of evaluating study results includes formative and summative evaluation and regulates summative assessment for evaluation of the achieved study results in RTU study courses. This regulation determines the procedure for summative evaluation of study results achieved in RTU study courses. Regulation defines different types of assessments, rating scales, assessment planning and procedure, determination of the final rating, procedures for appeals, academic debt settling and how to improve academic performance.</p> <p>The procedure for evaluating the study results achieved at the end of the study programme are determined by the Regulations on Final Examinations, which regulates the procedure for organization and conduct of final examinations, general requirements for study graduation papers, final theses (graduation papers), as well as the procedure of development and presentation of study final theses graduation papers. Detailed requirements for study graduation papers final theses, methodological guidelines for development of study graduation papers final theses and the procedure of presentation, pursuant to the present Regulations, is developed by the unit in charge for the implementation of the relevant study program and approved by the relevant Faculty Council. These Regulations apply to studies of all types and levels, except for doctoral studies.</p>
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4.	Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.	<p>In order to ensure the qualification and performance quality of academic staff, professional advancement needs are regularly assessed when evaluating the results. Professional advancement training modules are developed by collecting information from: (1) academic staff surveys on professional advancement needs once in two years; (2) analysis of student polling results; (3) cooperation with student self-governments; (4) world trends and good practices of other Latvian universities in the field of professional advancement of academic staff; (5) information provided by academic staff on professional advancement topics of interest; (6) proposals from the heads of academic units for professional advancement of academic staff.</p> <p>The Centre for Academic Excellence (CAE), a teaching and learning centre, was set up at the end of 2018; its aim is to develop a strategy for the professional advancement of academic staff, including in line with Article 16 of Cabinet Regulations No. 569 (https://likumi.lv/ta/id/301572#p16) (in Latvian). Other tasks of CAE are detailed in Section 2.3.6.</p> <p>Academic units organize regular or one-time professional advancement activities having assessed the need for professional training of academic staff. The units assess whether it is more appropriate to participate in a particular event for certain representatives of academic staff, all members of the unit or to invite also members from other units.</p>
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5.	<p>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>	<p>Student expectations and satisfaction with the curriculum and study process are identified in sequential and planned surveys at all stages of study. Student surveys are organized in accordance with the Regulations on "Student Polling for Assessment of the Study Process" (approved by the resolution of RTU Vice-Rector for Academic Affairs No 02000-1.1-e/8A as of 1 February 2021) (see the file of Annex 20 of the List of Internal regulations). The aim of polling is to clarify the adaptation of first year students to the university system and the satisfaction of all students with the study process, lectures, and practical classes after each semester, the satisfaction of students with the services offered by the University, and the overall satisfaction of graduates with the study programme. The results of the surveys are available to academic staff, heads of organizational units and students in a summarized form. The survey results also directly summarize the effectiveness of academic staff's work, as students also have the opportunity to add their comments to surveys on teaching staff's work abilities and professionalism. The analysis of student success information is the responsibility of the specific unit implementing the study programme. Information regarding the success of students within the scope of study courses and the weighted average mark in general shall be available in RTU Study Management system. Annually, the State Revenue Service provides information on employment of RTU graduates. The total quality management system of RTU, which is based on the EFQM quality model, includes and ensures the analysis and comparison of performance indicators of the study process and study programmes.</p> <p>At the beginning of September of each year, a faculty Activity Plan on study process indicators is drawn up: (1) number of students; (2) number of graduates; (3) number of graduates who complete their studies on time; (4) number of students expelled from University; (5) number of foreign students; (6) average age of elected academic staff; (7) number of study programmes implemented in English; (8) average indicator of the evaluation of faculty academic staff; (9) number of persons with a scientific degree elected to academic positions (%); (10) number of foreign guest lecturers.</p> <p>The established Faculty Study Activity Plans for the following year are drawn up by Faculty Deans, together with Deputy Deans for Academic Affairs and institute directors; they are approved by the Rector of RTU.</p> <p>RTU administration meets with representatives of faculties to evaluate the faculty activity plans on study process indicators, evaluating the progress in the previous academic year and defining the indicators to be achieved in the next two academic years. These indicators are used to monitor study process performance of the faculty. These indicators and other aspects influence the amount of performance-based funding allocated to the faculty and contribute to the achievement of the objectives set forward in the RTU Strategy.</p> <p>The study process funds are administered in accordance with methodologies approved by the Senate or as stipulated by the Vice-Rector for Strategic Development and Finance. Principles of the methodologies motivate the heads of departments to be proactive, to plan the development of the unit, and to apply for funding. These methodologies are described in more detail in section 2.3.1. of the self-assessment report.</p>
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<p>6. The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study field whilst implementing their quality assurance systems.</p>	<p>At the level of the faculty and study field, internal quality is ensured by the Faculty Council, the Study field Committee and Directors of the study field, Directors of the study programmes, administration of the institutes implementing study programmes.</p> <p>Within the framework of the study programme, internal quality is ensured by the program director and by the academic staff implementing the program. Internal quality control at the level of the study programme is carried out by the administration of the relevant institute.</p> <p>In order to ensure continuous development of the study programmes, RTU Study field Committees monitor academic activities in the relevant study field and are responsible for the curriculum and quality of the study programmes within the study field, including the accreditation of the study field. Inclusion of employer representatives in the study field Committee is a mandatory requirement. Study field Committee acts in accordance with the "Regulation of the Study field Committee" (approved by the Resolution of RTU Senate Meeting on 26 April 2021, Minutes No 649) (see the file of Annex 07 of the List of Internal regulations).</p> <p>The basic tasks of the Study field Committee are: (1) to analyse the situation in the labour market and make suggestions for the development of new study programmes as well as for the closure of the outdated study programmes; (2) to carry out expert assessment of the curriculum and quality of the study programmes, assess their compliance with the defined objectives and compliance with the research area represented and labour market requirements; (3) to organize and monitor the accreditation of the study field and the licensing of study programmes; (4) to analyse the assessment and recommendations made by external experts and organize elimination of identified shortcomings; (5) to carry out an analysis of the study field self-assessment report as well as the annual reports on study field development activities; (6) in order to achieve strategic objectives of the University, to assess the proposed changes to study programmes with a view to increasing the quality of all study programmes included in the study fields; (7) to analyse the results of student, graduate and employee surveys and organize elimination of identified shortcomings, as well as organize additional surveys.</p> <p>Starting with December 2018, RTU has been a member of the European Foundation for Quality Management, having joined the global quality cooperation network.</p> <p>RTU Excellence Approach has been elaborated in order to promote purposeful development of the University as an excellent organization, and RTU Constitution, Strategy and Quality Policy are integrated therein; it is based on the Standards and Guidelines for Quality Assurance in European Higher Education Area (ESG) developed by the European Association for Quality Assurance in Higher Education and the basic principles of the EFQM quality Model.</p> <p>The structure of RTU Excellence Approach is designed in accordance with the criteria of the EFQM quality Model and forms the basis for the maintenance of performance at a high level, a prerequisite for its continuous improvement, as well as for achievement of sustainable results of RTU activities and excellence.</p> <p>Within the framework of the EFQM model, student results are a separate criterion, and they are integrated with the main performance results of the university, thus ensuring that the quality of the study field is integrated with RTU quality management.</p> <p>To promote introduction of the model of the EFQM total quality management system, as well as to assist in the compilation of a self-assessment report, a working group was established at RTU on 29 September 2017 (Rector's order No 01000-1.1/225), which comprised representatives of RTU administration, faculties and Student Parliament (18 in total). Several of them are administrative and academic staff representatives and doctoral students related to this study direction:</p> <p>Head of the working group – Artūrs Zeps, RTU Vice-Rector for Development and Finances; Coordinator of the working group – Juris Iljins, Director of the Quality Management and Document Management Department.</p> <p>Members of the working group:</p> <p>Elīna Gaile-Sarkane, Vice-Rector of Accademic Affairs; Zane Rostoka, Head of Personnel Department; Laila Elīna – Head of the Scientific Activity Coordination and Information Centre; Laura Zaķe – Head of the Department of Financial Management of Projects; Inga Lapīņa – FEEM Vice-Dean for Academic Affairs; Deniss Ščeuļovs – FEEM Vice-Dean for Innovations.</p> <p>Quality model review report is drawn up with regard to the Quality Management System, which identifies the areas that should be improved. Performance indicators and results of student polling are integrated in RTU Quality Management System. Current data on RTU Quality Management System is collected in the PowerBI report, which shows the performance of the last years, set achievable goals and comparison with other universities or organizations.</p> <p>Application of RTU Excellence Approach is based on process-oriented activities and includes clear process flow and their interaction. Striving for excellence, RTU actively works on process planning, definition of its aims and interaction analysis. RTU has developed criteria and methods for ensuring efficient process operation and management. RTU is provided with feedback on process performance through process evaluation surveys. RTU conducts the process analysis and provides recommendations and suggestions on process improvement, which are discussed with process managers and persons responsible for process procedures; later they are approved as performable tasks with a definite completion term. Task creation and control tools inbuilt in the Document System, reports on task performance at the organizational unit level provide the necessary support for achievement of performance indicators of the annual aims and tasks set in RTU Strategy.</p>
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2.1. Management of the Study Field

2.1.1. Aims of the study field and their compliance with the scope of activities of the higher education institution/ college, the strategic development fields, as well as the development needs of the society and the national economy. The assessment of the interrelation of the study field and the study programmes included in it.

In accordance with order No. 475 (6.07.2022) of Cabinet of Ministers, the opening of a new study field "Transport Services" at RTU was accepted. Both the Ministry of Economics of the Republic of Latvia and the Ministry of Transport of the Republic of Latvia welcomed RTU's intention to create a new study field "Transport Services" and study programs, according to the Cabinet of Ministers order annotation. The Employers' Confederation of Latvia also stressed the need to prepare high-level specialists with professional competence in the logistics sector. The responsible institutions, such as the Cross-Sectoral Coordination Centre and the Council of Higher Education, when evaluating the new study field, recognised that it complies with [the National Development Plan of Latvia](#) (in latvian only) and [the Sustainable Development Strategy of Latvia 2030](#) (only in latvian).

Since on 5 July 2022 the Government of Latvia took a decision, starting from 31 October, to reorganize the Latvian Maritime Academy (LJA) - subordinate to the Ministry of Education and Science (MoES), adding it to Riga Technical University (RTU) as an autonomous structural unit that retains its name, identity features and traditions, and the LJA was already with decision No. 54 of the Study Accreditation Commission of the Ministry of Education of the Republic of Latvia of 29 May 2013, the study direction "Transport Services" and all study programmes included therein were accredited for six years (until 31.12.2024). This field of study at Riga Technical University (RTU) was taken over from the Latvian Maritime Academy and is being implemented at the Faculty of Engineering Economics and Management (FEEM).

Until 2023, in the study field "Transport Services", one Latvian Maritime Academy professional bachelor's study program "Port and Maritime Management" was implemented, the graduates of which were awarded a professional bachelor's degree in management and administration and qualification of a port and shipping management specialist. Since the awarded qualification is not planned to be included in the occupational card and employers have not accepted such qualification, from September 1, 2023, admission to this study program does not take place.

Two new study programs are being implemented in the study direction "Transport Services", which were licensed on December 22, 2022: the short-cycle professional higher education study program and the professional master study program. The full list of programs currently implemented in the study field can be seen in the table below.

Table 2.1.1.

Implemented programs			
Name	Level	Faculty	Changes
Logistics	First level (short-cycle) professional higher education study programme	FEEM	
Port and shipping management	Bachelor professional studies	RTU Latvian Maritime Academy	No admission since September 1, 2023.
Logistics and supply chain security	Master's professional studies	FEEM	

All study programs in the study field are logistics-oriented and they are unique. The short-cycle program "Logistics" is also implemented in other educational institutions in Latvia, but RTU provides

a hierarchical, sequential transition from short -cycle to long-cycle (first cycle) and higher-level or second cycle professional study programs in logistics, thus ensuring continuity, improvement and deepening of knowledge.

FEEM implements higher education and scientific activities in the field of management, preparing entrepreneurs, enterprise management and economics, personnel management, construction entrepreneurship, real estate management, city and regional economics, customs and tax administration, international economic relations, work environment safety, quality management, marketing, logistics, finance, etc. professionals. The study programme included in the study direction "Transport Services", implemented by the Latvian Maritime Academy of RTU, provided an opportunity to prepare specialists of the basic speciality necessary for the maritime transport sector with higher professional maritime education. In order to maintain this direction of specialization, from 2023 the specialization "Logistics of ports and sea transport" was created in the professional bachelor's program "Business Logistics" of RTU, but the qualification "Logistics Manager" was obtained and has not been changed.

In 2019-2023 RTU implemented the project "SAM 8.2.1. Reducing fragmentation of study programs at Riga Technical University and strengthening resource sharing", which aims to reduce the fragmentation of study programs and strengthen resource sharing. In turn, its specific objective is to implement the development and implementation of one joint doctoral study programme in one joint doctoral study program, and the closure of the existing 39 study programs by 30 November 2023, which are coordinated with the Ministry of Education and Science in the RTU study programme development and consolidation plan. The project intends to update the range of STEM study programs offered by RTU, modernizing and making interdisciplinary STEM study programs attractive to foreign students. Within the framework of the project, one new study program has been developed in the study field "Transport Services" – a professional master's study program "Logistics and Supply Chain Security", for which, as it was mentioned beforehand, a license has been obtained in 2022. Outside the project, the short cycle (1st level) professional higher education study program "Logistics" has been developed, which also obtained licence in 2022.

The study program "Logistics" offers 1st level professional higher education in the field of logistics and qualification of a logistics specialist in accordance with the developed profession standard Logistics specialist. The aim of the study program is to develop students' professional competence for work in the field of logistics in accordance with the profession standard "Logistics Specialist", as well as to develop research skills in order to prepare specialists who are able to ensure the basic processes of logistics, as well as to develop an understanding of the impact of logistics on the environment and responsible management.

The study program "Port and Shipping Management" offered to obtain a professional bachelor's degree in management and administration and the qualification of a port and shipping management specialist, but, as already mentioned, from 2023 admission to it does not take place. Students who studied in this study program continue their studies in the professional bachelor's study program "Business Logistics" accredited by RTU.

The study program "Logistics and Supply Chain Security" offers to acquire a professional master's degree in supply chain management and the qualification of a supply chain manager according to the developed profession standard Supply Chain Manager. The aim of the study program is to develop students' professional competence for work in the field of logistics and supply chain management and its security, as well as to develop research skills to prepare specialists who are able to ensure high quality in all supply chain processes, as well as to develop an understanding of the environmental impact of the supply chain and responsible management.

Comparing the study programmes implemented in the RTU study field "Transport Services" with

other study programmes of similar topics in Latvia, it can be concluded that they are unique, as they are the only ones that correspond to the competences included in the occupational standards "Logistics Specialist" and "Supply Chain Manager". The only study programme in Latvia in the field of logistics "Logistics and Supply Chain Security" is implemented only at RTU, but the 1st level professional higher education in the field of logistics can also be obtained in various colleges, for example, in the College of Business Management (study program *Business Logistics*), in the Vocational Education Competence Centre "Riga Technical College" (study program *Logistics*), etc.

The knowledge and skills acquired during their studies in the direction "Transport services" allow students to acquire practical and professional competences necessary for successful work in companies in the field of logistics in Latvia and abroad. The greatest emphasis in the study process is aimed precisely at improving professional and practical competencies based on scientific achievements, theoretical knowledge and specifics of the field. Taking into account the specifics of the field, part of the study courses is implemented in English in order to improve the use of professional terminology in the development of interstate business and successful cooperation with structures, institutions, organizations and enterprises of other countries. Both academic staff of the university and representatives of industries and highly qualified practitioners of the field, whose main work and practical experience have developed in companies and institutions in the field, are involved in the implementation of the learning process.

Within the framework of the study direction "Transport Services", **the aim** has been set to provide students with sustainable multi-stage education in the field of transport services, promoting competitive and welfare-promoting career development and preparing internationally recognized, highly qualified specialists in the logistics field.

The sub-objectives of the study field are to create, maintain and develop multi-stage, sustainable research and industry-based education:

- ensuring continuity of studies at all (four) levels of study corresponding to the field of activity of the Faculty of Engineering Economics and Management (hereinafter - the FEEM);
- promoting and implementing internationalisation activities, ensuring that 10% of students and 5% of academic staff come from abroad;
- ensuring the representation of the FEEM in the professional organizations corresponding to the Study Field; integrating research into all study programmes and at all levels of study.

The general tasks of the study field are formulated as follows:

- to develop students' analytically critical thinking and to promote interest in the processes taking place in society by analysing the economic situation of the country and the development trends of the Transport and Logistics sector, analysing and evaluating the situation in enterprises and the national economy as a whole;
- to acquire knowledge and improve professional skills and abilities in their chosen study programme, showing appropriate achievements and study results in each study course and integrating them into research;
- to promote the acquisition of research work skills by developing study papers within the framework of various study courses and final study papers;
- to develop skills in identifying problems, formulating goals and solving them, offering practical solutions to individual problems within the framework of study courses and final works;
- as a result of the study process, to develop students' intelligence, to promote their improvement, to promote the use of intellectual abilities in the study process and further in their practical activities.

In turn, the objectives of the study programmes in the study direction are subordinated to the objective of the study field, forming a unified system as a whole, at the same time reflecting the specifics of each study programme.

The Sustainable Development Strategy of Latvia until 2030 and the strategic objectives set out there stipulate that the development of Latvia in the future should be based on the foundations of sustainable development, therefore, specialists with interdisciplinary knowledge in the field of supply chain management will be needed in the future.

Currently, in Latvia, as in all countries of the world, logistics and supply chain processes are given special attention, because in the conditions of global trade, the volumes of goods supply are increasing.

On the basis of [the Communication Europe 2020 of the Commission of the European Union \(hereinafter referred to as the EU\) entitled "A strategy for smart, sustainable and inclusive growth"](#) (only in latvian), which sets out the objectives of improving the education system and research work, it can be concluded that Europe has an interest in participating in the development of higher education and research work. The flagship initiatives put forward in the document:

- "Innovation Union", which aims to improve the conditions for and access to research and innovation funding to ensure that innovative ideas can be turned into products and services that create growth and jobs.
- Youth on the Move aims to increase the performance of education systems and make it easier for young people to enter the labour market.

The Sustainable Development Strategy of Latvia focuses on the development of the basis of sustainability, ensuring the possibility of obtaining higher vocational education throughout life, which will promote the competitiveness and economic growth of Latvia.

Aims are set for the study field and its study programmes, which arise from the strategic goals of RTU: high-quality study process, excellent research, sustainable innovation. RTU's strategy is based on 3 main aims of the university and permeates the 5 most important priorities of the university – internationalization, interdisciplinarity, organizational, financial, as well as infrastructure efficiency. RTU uses these 5 horizontal priorities as a prism to review the implementation of its objectives and to provide the Latvian economy and society with internationally competitive high-quality scientific research, higher education, technology transfer, commercialization and innovation. RTU's strategic direction is to be an international and leading Baltic higher education institution of technology. Thus, the goal of the Study Direction fits into the unified development strategy of the university and corresponds to the overall trends in the development of society and the national economy. By implementing the study programmes of the Study Direction, students' understanding of economic and social issues in sustainable economic development, as well as their skills in identifying problems and solving them are developed.

Aims are set for the study field and its programmes, which arise from the strategic goals of RTU: excellent science, sustainable valorization, quality studies and institutional excellence. RTU's strategy 2021-2025 (only in latvian) is based on four main goals of the university and transmits into five key priorities of the university – internationalization, interdisciplinarity, organizational, financial, as well as infrastructure efficiency. RTU uses these 5 horizontal priorities as a prism to review the implementation of its objectives and to provide the Latvian economy and society with internationally competitive high-quality scientific research, higher education, technology transfer, commercialization and innovation. RTU's strategic direction is to be an international and leading Baltic higher education institution of technology. Thus, the goals of the study direction fit into the unified development strategy of the university and correspond to the common trends in the

development of society and the national economy. When implementing study programmes of the study field, a direct contribution is made to the implementation of interdisciplinary internationally recognized study programmes based on scientific innovations and, thus, the training of high-quality specialists in order to ensure the long-term development of the Latvian and European economy in a way that is environmentally and climate-friendly and adaptable to climate change.

The RTU development strategy is being implemented as part of the process of shaping the future of European engineering education. On 9 October 2015, RTU became a member of CESAER (Conference of European Schools for Advanced Engineering Education and Research), and now the university participates in the development of engineering education, research and innovation policy, which is also on the agenda of the European Commission (EC). RTU currently participates in three CESAER expert working groups (Task Force): Human Resources, Innovation and Scientific Engineering Education (TFSEE). The latter is designed to proactively influence European policy in higher education in general, including by expressing their views and ensuring that the interests of science and technology universities are represented in the European Higher Education Area and in the New Skills Agenda for Europe, and in particular in STEAAM (Science, Technology, Engineering, Architecture, Arts and Mathematics) education. Expert working groups work in such a way as to respond flexibly and quickly to the demand of the European institutions and to offer support and solutions for various decisions.

In a survey conducted by the Confederation of Employers (LDDK), RTU is recognized as the most recommended and recognized higher education institution by employers and so far occupies the honourable 1st place in this ranking every year. This is an assessment of Latvian higher education institutions created by the Latvian portal Prakse.lv and the LDDK. It was evaluated which professions are currently needed in the labour market and which university is able to prepare the best specialists for competitive companies. Such an assessment was created with the aim of helping graduates of elementary and secondary schools to make the right choice of profession and educational institution. It was recognised that RTU is an example of how a real link between studies and the real labour market is ensured. In this survey, engineering-related professions were mentioned in the list of the most demanded professions.

In order to assess the compliance of study programmes in the study field with the requirements of the labour market and the employment opportunities of graduates of the study programme, employer surveys or focus group interviews are conducted in all study programmes. In the survey, respondents are managers of internship companies, who are often also graduates of study programs and cooperation partners. They are invited to objectively evaluate the knowledge and skills of the particular study programmes, graduates of the study programme and their compliance with the requirements of the labour market, as well as to predict the employment opportunities of graduates. The results of these surveys are available from study programme managers

2.1.2. SWOT analysis of the study field 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 field 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 field for the next assessment period shall be provided.

To ensure the quality of the study field, a study improvement report is prepared every year, which is evaluated by an expert appointed by the Vice-Rector for Studies. The report is approved by the RTU Senate. A mandatory section of the improvement report is a SWOT analysis, which allows you to show in a concise way what has been done and illustrate the problems. It is an essential tool for achieving the goals of the field of study.

SWOT analysis of the study field "Transport Services"

Strengths

- Interdisciplinary, practical skills and higher education level study programmes integrated in science (1st level professional higher education, bachelor's studies, master's studies).
- Highly developed infrastructure, modern, fully equipped audiences, laboratories, excellent digital infrastructure (ORTUS, databases of scientific publications, etc.).
- Diverse and constantly improving through participation in scientific-research projects research infrastructure at the faculty and accessibility to the infrastructure base of transport and logistics companies for ensuring the study process and research process.
- The quality of studies and science is ensured by a rich professional experience, internationally recognized in scientific activity and loyal academic staff who regularly improve their competences and ensure the study process also in English.
- Democratic relations between the administration, academic staff and students, students participate in decision-making and the development and improvement of the study process, the policy of academic integrity has been strengthened.
- Management of the study field, including the development of new research directions and the formation of feedback with students and graduates on the course of the study process, ensures continuous development and quality control of the study process. The quality system at RTU is designed as RTU's excellence approach, which ensures high-quality studies and research, as well as continuous improvement.
- Improvement of the quality of the final study papers by involving students in the development of scientific projects and updating the topics of the final papers in cooperation with companies in the field. Extensive international partnership and cooperation with foreign universities in the field of studies and scientific research.
- The demand for logistics specialists, logistics managers and supply chain managers in the labor market in Latvia and worldwide is growing.
- Strong RTU Alumni Association, which builds a reputation and sustainable cooperation with former students.
- The realization of studies ensures operative and close ties with employers, which allows to obtain up-to-date information about the needs of the labour market in Latvia and the development of the national economy, as well as allows to obtain technical assistance.

Weaknesses

- Different levels of initial preparedness of students (especially among domestic and international students), different understanding of the cultural and educational process, and motivation of students.
- Expressed in the employment of students in parallel with the full-time study process, which worsens the success rate.
- Academic staff are congested, thus insufficient capacity to reinforce the implementation of a student-centred educational approach.
- In the long term, there is a lack of stable (rather than project-oriented) funding, which hinders the flexible and effective involvement of foreign teaching staff and industry professionals in the study process and research.

- Underutilisation of mobility opportunities for students and academic staff.
- An underdeveloped international brand of RTU to successfully compete with universities of an equivalent level in other countries in attracting foreign students.

Opportunities

- Improvement of existing study programmes and development of new study programmes, evaluating changes in the fields related to the study field and in accordance with trends in the labour market and scientific research directions.
- Study opportunities abroad within the framework of exchange programmes, participation in mobility programmes for academic staff, gaining international experience in projects, etc.;
- Attracting additional funding and expanding international cooperation by participating in national and European programmes and projects (National Research Programmes, projects funded by the Latvian Council of Science, Horizon Europe, etc.), as well as in the development of applied research and in cooperation with companies in the implementation of market-oriented research.
- Use of the infrastructure of research centres of national importance for the study and research process.
- Expansion of cooperation with foreign higher education institutions and international institutions and organizations within the framework of the study field.
- Providing a remote form study process by taking advantage of digital infrastructure, such as for part-time students, as well as successfully attracting foreign visiting faculty, including through the implementation of expanded arrays, open online course systems (MOOCs).
- Timely integration of new and future academic staff and in the course of the study process and raising of qualifications.
- Using the potential for the implementation of joint study courses, double diplomas, joint study programmes.
- Incentivizing students to engage more actively in non-classroom activities.
- Introduction of new, integrated study methods in the study process.
- Raising public interest and understanding of the field of logistics, thereby stimulating the processes of further education in the country.

Threats

- Insufficient state funding and distribution of financial resources between study fields, reduction of state-funded budget places.
- By combining full-time studies with work, students cannot fully participate in the study process, this leads to problems in achieving the planned study result, a decrease in success, as well as a threat of not completing studies.
- Decrease in the number of students (bachelors, masters) due to various reasons (deterioration of demographic situation, insolvency, increasing competition between universities, including foreign universities).
- Insufficient individual scholarships for students to take full advantage of mobility programmes can reduce student mobility, as the cost of living in many European countries is very high.

The management of the study field "Transport Services" works, as far as possible, on the elimination of weaknesses and the reduction and elimination of threats. Thus, for example, a greater selection is made in choosing foreign students and cooperation partners. In cooperation with RTU ICD (Department of International Cooperation and Foreign Students) promotion of study programs abroad takes place (in India, in Turkey, in Sri Lanka). Students and teaching staff are invited to take advantage of mobility opportunities, as well as to participate in thematic guest

lectures and study tours organized by the management of study programmes, for example, an excursion to the Freeport of Riga, which allows students with different levels of preparedness to acquire additional knowledge. Plan for the development of the study field is attached to the annex (see Annex 3. Study field development plan).

According to the development plan, targeted and continuous cooperation with industry representatives should be continued in the next six years, planning to constantly update the study content so that it meets the needs and trends of the industry. In the development of the development plan, the recommendations of the employers' representatives - leading industry experts on current affairs in the industry were mainly taken into account and included.

2.1.3. The structure of the management of the study field and the relevant study programmes, and the analysis and assessment of the efficiency thereof, including the assessment of the role of the head of the study field 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 field.

At the level of the faculty and the study field, internal quality shall be ensured by the council of the faculty, the commission of the study field and the director of the study field, the directors of study programmes, the administration of institutes implementing study programmes.

In order for the continuous development of study programmes to take place, the RTU study direction commissions supervise academic activities in the relevant field of study and are responsible for the content and quality of study programmes in the study field, including accreditation of the study field. A mandatory requirement is the inclusion of representatives of employers in the composition of the commission of the study field. The commission of study directions operates in accordance with the "By-laws of the Commission for the Study Direction" (approved by the RTU Senate on April 26, 2021, Protocol No. 649). The basic tasks of the study field commission are:

- to analyse the situation on the labour market and to make suggestions for the creation of new study programmes, as well as for the closure of study programmes that have become obsolete;
- to carry out expert-examination of the content and quality of study programmes, to evaluate their conformity with the defined objectives, their conformity with the requirements of the represented field of science and the labour market;
- to organize and supervise the accreditation of the study field and licensing of study programmes; analyze the assessments and recommendations provided by external experts and organize the elimination of the indicated shortcomings;
- to carry out analysis of the self-assessment report of the study field, as well as the annual report on the measures for the improvement of the study field;
- to evaluate the proposed changes in study programmes with the aim of increasing the quality of all study programmes included in the field of study in order to achieve the strategic objectives of the university;
- analyze the results of surveys of students, graduates and employers and organize the elimination of detected shortcomings; organize additional surveys

In total, 2 study programmes are currently being implemented in the study field "Transport

Services" (2 new study programmes are being promoted to the accreditation of the study field – the 1st level professional higher education study program "Logistics" and the professional master's study program "Logistics and Supply Chain Security") and they are headed by one program director – associate professor, Dr.oec. Ingūna Jurgelāne-Kaldava, which ensures hierarchical supervision of the total study content.

The composition of the commission of the study field "Transport Services" consists of 9 participants, of which 5 represent the academic staff of study programs, 3 - representatives of employers, and 1 student representative without the right to vote.

The study field "Transport Services" at Riga Technical University is provided by the RTU FEEM Governance and Security Institute. It provides teaching and methodological work: establish and update study course programs, ensure the teaching of the relevant study courses, management and defense of final works, and carry out other activities related to teaching, methodological and scientific work. Support in ensuring the study processes integrated in science is provided by RTU FEEM Customs Control Laboratory, as well as Bloomberg laboratory at the FEEM, as well as RTU Design Factory and laboratories.

Other structural units of RTU – faculties and institutes – for example, the RTU Faculty of Computer Science, Information Technology and Energy, etc. are also involved in the implementation of study programmes in the study field.

In order to ensure the quality of the study programmes in the study field and the necessary support for teaching staff and students, the study field has a professional team, as well as self-assessment working groups of study programmes. The administrative staff of the institute, teaching staff, students, employers are involved in the management of the study field

The involvement of the teaching staff in the development of the study field, as well as in the development of new study programmes takes place directly: by providing proposals for the improvement of study programmes (substantively and organisationally) and implementing them, by analysing the existing similar study programmes in the field of transport and logistics, by collecting the opinions of professional and scientific organizations (from seminars and conferences) for the future development of the field of transport and logistics, by analysing the results of surveys of students of iksemestra, by discussing the necessary objectives, tasks, results of the Study Programme and the study courses to be included by participating in events organised by employers and career days.

Cooperation with employers in the context of the management of the study field and new study programmes takes place at several levels. First of all, the regular participation of employers in the definition of strategic goals in the advisory and professional councils of the study process (council of professors, council of the study field, council of the study programme) allows timely response to the necessary changes in the content of study programmes (when changing the course) or the need for the development of new study programmes. Secondly, the involvement of employers in the implementation of the study process as guest lecturers and in the consultation of final works. Thirdly, cooperation during the development of scientific projects and scientific contract papers allows to discuss changes in the content and implementation of study programmes. Year after year, cooperation expands, priorities change, and mutual interest and feedback increase. Cooperation with employers is also coordinated by RTU Career Centre, which establishes and maintains contacts with potential employers, advises students on the development of professional careers, selection of thesis topics, review of diploma theses, meetings of the study direction commission and other events. Within the framework of study fields, dialogue with representatives of industries takes place not less than 1 time per year (mostly in May-June, at the end of the study year). This type of cooperation brings mutual benefits in providing high-quality up-to-date information.

During the study process, student surveys will be conducted regularly – in each academic year, students are invited to express their opinion on the performance of academic staff in each study course. At the end of the studies in the program, they are invited to express an opinion about the study program as a whole – to evaluate its organization and implementation. The results of the surveys will be analysed during the audit of the Study Programme and used in the improvement of the processes of organisation and implementation of the study programme for the next academic year, examining their results at meetings of the Study Programme Council, as well as at meetings of the responsible departments of the higher education institution. In addition, a significant role in the improvement of study programmes and the development of new programs is played by the participation of students in the advisory council of the study process (Council of the Study Direction), where students came up with proposals regarding the study courses to be included and the ways of their implementation, the identified shortcomings. The administrative staff carries out study support processes – organisation of study work, provision of public and international relations, student record-keeping, technical support in study programmes of the study field, and other works related to the implementation of the study programme.

The FEEM team consists of director of study programmes and the administrative and technical staff involved in the implementation of each programme – 11 employees in total. This staff performs study support processes – study work organisation, ensuring of public and international relations, record-keeping on students, technical support in study programmes of the direction and other works related to the implementation of the study programme. An office administrator, a public relations specialist, an administrator of computer networks and study process planning, and coordination specialists can be mentioned as the most important administrative and technical staff positions.

Currently, **3 academic office administrators** are involved in the implementation of the study field, whose main duties and competence are the supervision and management of administrative work in general. Their duties also include the organization of business correspondence, the circulation of information, t.sk. with cooperation organizations in Latvia and abroad, coordination of telephone calls, e-mails and correspondence flows, planning of the manager's work schedule, organization of meetings and receptions. They can also carry out simple financial accounting in the structural unit, analysis, assessment and control of documentation, as well as the preparation of various types of reports related to the main activity on behalf of the manager and the solution of problems or a non-standard situation.

The duties of a **FEEM public relations specialist** are performed by one person, whose main duties and competence include the creation of a positive image of FEEM, which includes translation of different materials and documents, as well as creation of informative materials by summarising, systematising and updating information on organisational units, improvement and updating of the website. The development and implementation of the marketing plan is one of the main duties. The public relations specialist should constantly maintain contacts with FEEM's international cooperation partners, as well as work on the attraction of new partners, as well as organisation of visits of cooperation partners, settlement of formalities, welcoming of delegations, etc.

The administrator of computer systems and computer networks, whose main duties and competence include maintenance, installation, configuration of computer equipment and office equipment, performance of system diagnostics tests and resolution of complex problems in the systems, or integration of systems and resolution of compatibility-related problems should be solved. This specialist is also responsible for administration of operating systems and application (software) packages with a large number of users, including regular system tests. Administrators of computer networks and laboratory employees should plan and coordinate constant functioning of the system, analyse necessary improvements, evaluate possible solutions and make

recommendations to the management.

The faculty employs **2 study process planning and coordination specialists**, who are responsible for planning of classes and premises for the study programmes and coordination and supervision of changes. Planning of individual study programmes also takes place in organisational units, however, the entire process is supervised by the planner of faculty classes to ensure effective use of premises and optimal work of academic staff.

4 student service specialists at the FEEM Information and Service Centre, who ensure that necessary information is available to students, employees and other visitors and circulation of this information. As a priority, this centre provides jobs to FEEM students.

The study programmes implemented within the framework of the study field fully comply with the four main objectives of higher education – the development of personality, democratic society and science, and the satisfaction of the requirements of the labour market. To ensure this compliance, to establish and implement an effective direction management and development strategy, it is based on the following principles:

- cooperation – all parties are involved in solving issues related to the development of the direction: personnel, students, employers, local governments and state institutions, public organizations, etc.;
- systemicity – provision of cooperation and partnership approach in solving issues of direction development both within the framework of RTU and in cooperation with other institutions;
- continuity – continuity in the implementation of study and personal development goals, ensuring logical continuity in study programmes and lifelong learning;
- sustainability – soundness and balanced development of educational decisions; accessibility – all students have equal opportunities to receive appropriate education within the framework of the study field;
- coordination – an integrated approach to the planning and implementation of changes is implemented, ensuring unified management and coordination of changes both between different structural units and levels and types of study programmes.

Internal quality control at the faculty and at the level of the study field is ensured by the Vice Dean for Academic Affairs. The quality of the study programme is ensured by the Head of the study programme and the academic staff involved in the implementation of the program, whereas the whole process is controlled by the administration of the responsible institute or academic field. Once in an academic year the abstracts and curriculum of the study programme, the methodological materials, as well as recent study literature and methodological guidelines for study papers (reports, study papers, internship reports and graduation papers) are reviewed. The academic staff and the administration of the study programme participate in various experience exchange activities, cooperating with the higher education establishments in other countries, participating in the meetings with representatives of relevant institutions and entrepreneurs, as well as discuss the current developments in the field, analysing the results of the students' research papers and projects.

The responsibilities and duties of the Head of the study programme are provided in the job description. It is currently being revised and improved. The draft copy of job description for the Head of the Program is attached in the Annex "Job description for the Head of the Program" in the section Other Annexes. The most important duties of the program director include: management of study programme development, improvement of the curriculum in compliance with the requirements of the scientific fields or the sectors of the national economy, implementation of quality assurance, supervision of study plan development, promotion of internationalization, in cooperation with RTU Study Department providing the input of data in the Information system, as

well as the cooperation with other departments of RTU that are involved in the implementation of the study programme. The administration of the Faculty constantly monitors the compliance of the premises and technical equipment with the modern quality requirements, and appropriate classrooms have been created with the necessary multimedia equipment. Support functions for the development and implementation of study programmes are provided by RTU Study Department. RTU Programs Management and Curriculum Design Unit plays an important role supporting the improvement of the study programme.

The Study field Committee includes directors of all study programmes in the specific study field, leading teaching staff, representatives of employers and a representative of students (see Annex 4. Study Field Management Structure). The structure indicates that the Study Direction Committee shall supervise the activities of the Study Direction, performing an examination of the content and quality of implementation of study programmes of the study direction at the end of each academic year, evaluating their conformity with the objectives of the study direction, the requirements of the represented science sector and labour market, as well as taking into account the opinion of graduates and students regarding the quality of programmes. The Study Direction Committee initially take decisions on different types of issues, which are further approved by faculty councils, while further communicating with the Study Department, which prepares Senate projects (with the basis of decisions of both the Study Direction Committee and Faculty Councils) for examination by the Senate Study Quality and Programs Committee, where RTU Vice-Rector for Academic Affairs also participates and engages in discussion on relevant issues. Once the Senate Study Quality and Programs Committee has reviewed and approved the project's consideration in the Senate, only then does it advance to the RTU Senate hearing.

RTU has established a rigid system for the management and development of study programmes. Proposals to introduce any changes in the curriculum are made by the Study field Committee based on the recommendations of the academic staff, references from employers, suggestions from student self-government, as well as observing the latest trends in the national economy and the labour market. The Study field Committee requests the Faculty Council to review and approve them. Based on the decision of the Faculty Council, the RTU Senate approves changes in the study field. Amendments in the structure of study programmes are approved by the order of RTU Vice Rector for Academic Affairs. Technical support of the study field is provided by the study programme record keeping as well as RTU IT department. Such cooperation in the implementation of the study programmes within the study field is to be evaluated as efficient and stimulating the development of the study field.

2.1.4. 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 options for the students to have their study period, professional experience, and the previously acquired formal and non-formal education recognised within the study field by providing specific examples of the application of these procedures.

The admission process and procedure of students' matriculation is stipulated in the RTU Admission Regulations, which are elaborated based on the Law on Higher Education Institutions and Cabinet Regulations No. 846 issued 10 Oct 2006 "[Regulations on Requirements, Criteria and Procedures for Enrolment in Study Programmes](#)", as well as the specific requirements of study programmes and the industry. The RTU Admission Regulations are approved by the RTU Senate and published on

November 1 each year (see the files of Annex 29-35 of the List of Internal regulations).

Admission requirements are logical, understandable, and linked to the goals defined in the RTU Strategy. Admission system is state-of-the-art, easily accessible, logically structured, and is evolving in line with today's digitalization trends, providing the potential students with the convenient and easy to use application to university registration tool.

Applicants are admitted to full-time and part-time undergraduate programmes based on the results of the Centralized Examinations (CE) in Mathematics, the Latvian language and the Foreign Language, and the final grades in individual subjects obtained in the Secondary Education, and the entry test results. If, in addition to these CEs, the applicant has a CE in Physics or Chemistry, the results of these CEs are taken into account in the ranking calculation.

In order to participate in the competition for the state budget funded seats, the rating in Mathematics CE is calculated as the average value of all Mathematics CE rating sections and must be at least 15 percent. An applicant with a CE in mathematics of less than 15 percent may apply only for a tuition fee. Until year 2022 the CE rating minimal value was set at 12 percent.

To determine the candidate's rank in the competition, each CE rating, calculated as an average of all CE evaluation sections, and each entry test (if any applies) is multiplied by the appropriate weighting factor and the resulting multiplications are added together. Some study programme applicants must pass an entry test, the result of which shall be multiplied by an appropriate weighting factor and summed up in the total calculation of rank.

Persons, who have received secondary education prior to 2009 (including), as well as persons, who have received secondary education abroad, or persons, who were exempted from passing the secondary education state examinations in accordance with the procedure set by regulatory enactments, may be admitted to the study programmes based on their year grades in the secondary education document in the subjects mentioned in the RTU Admission Regulations, which must be successfully passed. Up to 2019, the admission based on the secondary education year grades was attributed to persons who completed secondary education prior to 2004. In general, the RTU Admission Regulations follow the Cabinet Regulations No. 846.

Persons who have completed secondary education and have not passed any of the CEs mentioned in the RTU Admission Regulations or have failed the year grade, shall pass the CE in accordance with the Cabinet Regulations No. 398 "Rules on the content and procedure for centralized examinations" (in latvian only).

Persons who have not passed CE in Latvian and who do not meet the requirements of RTU Admission Regulations, shall pass the entrance examination in Latvian as prescribed by RTU. The result is evaluated in percentage.

In compliance with Cabinet Regulations No. 795 adopted on 20 December 2022 "Regulations on Replacement of the Foreign Language Centralized Examination in the General Secondary Education Program by Foreign Language Examinations Conducted by International Testing Institutions"(in latvian only), CE in the foreign language can be replaced with a foreign language examination conducted by an international testing institution the certificate of which must be presented to the RTU Admission Committee.

The applicants who have acquired a bachelor's degree in a field relevant to the study programme are enrolled to the graduate study programmes. The applicants take part in the competition with a weighted average grade from the Bachelor or professional study programme records. The weighted average grade is calculated as the sum of all the grades received in each study course multiplied by the credit points acquired in the study programme and is divided by the total number of credit

points within the study programme. If credit points are not verified, the number is calculated as the multiplication of the grades and contact hours obtained in each study course divided by the total number of contact hours.

Taking into account the spread of Covid-19 and in order to facilitate the admission process of applicants for studies at RTU, starting from the summer of 2020, the admission process was improved.

There are two ways to apply for the state budget funded seats in undergraduate study programmes:

- electronically in the Joint Enrolment Undergraduate Study Programme information system, using the e-service portal (<https://www.latvija.lv>). Given the spread of Covid-19, with the summer 2020 admission, secondary school graduates of the 2019/2020 school year can approve the electronic application remotely without arriving in person. If the secondary education was obtained abroad or until 2019/2020 school year, the applicants must confirm their electronic applications by arriving at the designated locations within the deadlines and presenting the originals of the required documents;
- arriving at the RTU Admission Committee in person, presenting the originals of the required documents.

To apply for the state budget funded seats in the graduate study programmes RTU undergraduate study programme graduates can submit their applications online on RTU portal ORTUS. Taking into account the spread of Covid-19, with the summer 2020 admission, also graduates of other Latvian state-accredited higher education institutions' undergraduate study programmes can submit applications electronically on the RTU website, or by visiting RTU Admission Committee.

Applicants who do not qualify for the state budget funded seats and applicants who have received their education outside Latvia, as well as in other specific cases, must appear in person at the RTU Admission Committee within the admission deadline, with the required documents.

Taking into account the spread of Covid-19 and in order to improve the RTU admission process and make it easier for applicants to apply for studies at RTU, with the summer admission of 2021, electronic application for studies for a fee has been introduced in undergraduate and higher-level study programmes.

Recognition of previously acquired formal and non-formal education at RTU is carried out in accordance with the "Regulation on the Recognition of the "Courses Completed at Other Universities and RTU Study Programmes" (Resolution of RTU Vice-Rector for Academic Affairs No 02000-1.1/29 as of 4 April 2016) and the "Procedure for Recognition of Competencies Developed Outside Formal Education or From Professional Experience and Learning Outcomes Achieved in Previous Education at Riga Technical University" (approved at the Meeting of RTU Senate on 23 September 2019, Minutes No 632) (available at <https://international.rtu.lv/study-regulations/> and in the file of Annex 09 of the List of Internal regulations).

RTU Admission Regulations are published at:

<https://www.rtu.lv/lv/studijas/uznemsana/uznemsanas-noteikumi> (in Latvian) (for local students) and at <https://www.rtu.lv/en/studies/admission-1> (for foreign and exchange students).

The possibility of recognition of the study period, professional experience, previously acquired formal and non-formal education within the framework of the study direction is a convenient and relatively simple procedure for students. When a student submits an application, accompanied by the necessary documents regarding the acquisition of previous similar study courses and/or professional experience, they are evaluated. In order to implement the alignment of professional

experience, students must prepare and submit a description of their professional activity, which is evaluated by the commission and a decision is made on the conformity of professional activity with the requirements of the study program. If necessary, an additional interview is possible to clarify unclear issues.

The recognition of study courses acquired in formal education in all study programs of the direction occurs almost every semester at the request of students.

In study programmes of the study field, students matriculated in later stages of studies are subject to recognition of study courses acquired at the previous level of studies, or in study programmes of the first level higher vocational education (college), if the study courses and their amount correspond to the RTU study programmes.

The development and licensing of the new study programmes of the RTU study field "Transport Services" (1st level professional higher education study programme "Logistics" and the professional master's study programme "Logistics and Supply Chain Security") is subordinated to the accreditation year of the study direction "Transport Services". The commencement of the implementation of the new study programmes in the academic years 2022/2023 and 2023/2024 has been started, and for accreditation of the study field "Transport Services" there are students enrolled in new study programs (see the attachment about the number of students). When submitting the self-assessment report of the study field, it shall not include in the RTU study field development and consolidation plan as indicated in the plan for the development and consolidation of the existing study programme "Port and Shipping Management". Those students of the study programme to be closed (for example, those on academic leave) who will not complete their studies in the study program "Port and Shipping Management" until the closure of the study program, then students, in accordance with the Study Agreement, was offered to continue their studies in the RTU study program "Business Logistics" or in another educational institution (higher education institution). Students of the study program "Port and Shipping Management" to be closed who were interested in continuing their studies will be subject to the procedure of the RTU Vice-Rector for Studies of 4 April 2016 "On recognition of study courses acquired in other higher education institutions and study programs" (see Annex 10 of the RTU regulatory enactments folder), applying the list of recognition of study courses specially prepared between the new study program and the study program to be closed within the framework of the study direction "Transport Services".

LBTU (Latvia University of Life Sciences and Technologies) is the successor of all rights, obligations and responsibilities of LLU (Latvia University of Agriculture). The agreement on the possibilities of continuing studies concluded on January 8, 2020 between RTU and LLU is valid with all legal obligations.

In the Annex, the following is added:

- A document certifying that the higher education institution or college will provide students with opportunities to continue the acquisition of education in another study programme or in another higher education institution/college (contract with another accredited higher education institution or college), if the implementation of the study programme is suspended (see Annex 5. Certifications about continuing education (only in Latvian));
- A document certifying that the higher education institution or college guarantees compensation for losses to students if the study programme is not accredited due to the actions (actions or inactions) of the higher education institution or college or the licence of the study programme is revoked and the student does not wish to continue studies in another study programme. (It is recommended to attach one certification, which provides information on all study programmes corresponding to the study field, to indicate each study programme separately) (see Annex 6. Compensation for losses (only in latvian));

- Standard sample of the study agreement (see Annex 7. Sample of study agreement).

2.1.5. 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.

Assessment of student learning outcomes is carried out in accordance with the "Regulation on the Assessment of Learning Outcomes" (approved at the Meeting of RTU Senate on 30 May 2022, Minutes No 633), which is available on Studies Regulations page of RTU web page (https://www.rtu.lv/writable/public_files/RTU_5.4._7.4.studiju_rezultatu_vertesanas_nolikums_2022.pdf (in Latvian); the English translation is in the file of Annex 04 of the List of Internal regulations). Summative assessment system is used in appraisal of student achievements, it implies that the final grade is composed of numerous components.

In the study course descriptions of the study programme there is a set of relevant knowledge, skills and competences and their evaluation system, defined learning outcomes for the achievement of which credit points are awarded.

Pedagogical methods used in the implementation of study courses, as well as assessment forms and methods are selected by the instructors responsible for the study courses in compliance with course curriculum and specifics of the programme, as well as student needs. A member of academic staff should inform students about particular assessment criteria at the first lecture/practical class.

The main advantage of the summative assessment system is that the final grade is made up of several components. Therefore, the students may contribute to their final grade working during semester. Criteria for assessment of the study courses and individual/home tasks are published on ORTUS e-study system beforehand. During semester, the assessment for each home task, test, report, presentation and any other task is ascribed certain weight in the final grade. Exam grade may not exceed 50% of the final grade. Academic staff may take into consideration and also assess student attendance. Assessment structure for the study course is determined by the academic staff themselves, abiding the resolution of RTU Senate that the exam grade may not contribute more than 50% to the final grade. Selecting assessment criteria and methods for evaluation of student achievements, specifics of each study programme and learning outcomes are taken into consideration. Familiarisation of students of the study programme with the criteria and conditions for the assessment of the examination of study courses is ensured:

- in person during the implementation of the study course. At the beginning of the implementation of each study course, the responsible teaching staff in the first lesson gives a presentation on the course, its goals and objectives, the content of the course, the results to be achieved, the requirements set, the type of test for the acquisition of the course (test or examination), the time, length and conditions of the examination (number of questions t.sk), the requirements for receiving a positive assessment and the assessment criteria.
- Before the examination (in the case of a test - the last before the test in the lesson, in the case of an examination - during the consultation), the teaching staff informs about the requirements set, the type of test for the acquisition of the course (test or examination), the time, length and conditions of the examination (number of questions t.sk), the requirements for receiving a positive assessment and the assessment criteria.

- immediately before the examination (test or examination) - before the start of the examination, the teaching staff informs about the requirements set, the type of test for taking the course (test or examination), the time, length and conditions of the test (number of questions t.sk), the requirements for receiving a positive assessment and the assessment criteria

Familiarization of students of the study field "Transport Services" with study courses within the framework of study programmes is ensured at two levels:

- through the internal system of the university "ORTUS", in accordance with the order of the Vice-Rector for Studies on the use of the RTU e-learning system in study courses. The ORTUS portal is available to every student and within the framework of the ORTUS system has been created in an e-learning environment designed for communication between students and teachers and, among other things, includes descriptions of all courses of the study programme, t.sk. course code, name, status, level and type, subject area, structural unit and teaching staff that ensures course implementation, credits, course annotation, as well as course objectives, tasks, expressed competences and skills, study results to be achieved and their evaluation. Study course descriptions are compiled in the Study Course Catalogue and are publicly available without registration to any user (see <https://www.rtu.lv/lv/studijas/bakalaura-limena-studijas/studiju-kursi>). In the e-learning environment, the information available to the student about the course includes both the description of the study courses and its plan, information published by the teaching staff on the requirements, assessment, evaluations of tests and study materials.
- in person during the implementation of the study course. At the beginning of the implementation of each study course, the responsible teaching staff in the first lesson provides an introduction to the course, its goals and objectives, the content of the course, the results to be achieved, the requirements set, the type of test for the acquisition of the course (test or examination), the time, length and conditions of the examination (number of questions t.sk), the requirements for receiving a positive assessment and the assessment criteria.

RTU does not set specific requirements for study **attendance**, except for 1st year students, for whom attendance of classes is mandatory in accordance with the rector's order On study procedures for 1st year students. In other courses, structural units and teaching staff have the right to determine their own requirements for attending classes, informing students about this at the beginning of the course:

- verbally informing students about the purpose, content, course of the course, mandatory classes, criteria for the assessment of the course and conditions for the course course.
- by distributing in printed form or/and attaching ortus in the e-learning environment the course plan, which indicates the topics included within the course, the distribution of classes (theoretical lecture, practical lesson or laboratory work), the lesson to be attended on a mandatory basis.

In order to ensure feedback between the student and the lecturer in a particular study course, the assessment of students' knowledge and control of independent study work is carried out continuously during the semester through seminars, discussions, between test papers.

The evaluation of **final works** is based on the RTU regulations for the evaluation of final papers (t.sk. on the procedures for submitting and reviewing appeals regarding the course of final and State examinations), as well as on the guidelines developed by the structural unit implementing the programme for the evaluation of final papers.

The final mark of the final works consists of:

- arithmetically average individual assessment of the members of the committee for the evaluation of final works on the work and presentation of the work, t.sk. assessment of the supervisor, as a member of the commission for the evaluation of the final thesis, the assessment of the reviewer of the final work.
- Student performance in the development of final papers during the semesters.

In order to advance professional pedagogical competences of the academic staff, courses and seminars on the newest pedagogical methods are organized regularly. Qualification advancement is provided at both the University and faculty level, organizing academic conferences and methodological seminars. The Centre for Academic Excellence has been established and successfully operates at RTU; it organizes various events aimed at professional advancement of academic personnel at the University level.

(In addition, see the description of each study programme)

2.1.6. Description and assessment of the academic integrity principles, the mechanisms for 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.

Since 2010 all students that graduate from any RTU study programme should upload electronic versions of their graduation papers in ORTUS portal in order to improve the quality of graduation papers, create a bibliographic database of the graduation papers and introduce an automated control system for detecting plagiarism. RTU uses two major plagiarism control tools in the study process:

1. Since 2015 graduation papers of study programmes of the study field have been checked in the joint computerised plagiarism control system (JCPCS), which unites numerous Latvian universities and colleges. RTU uses the system in cooperation with the University of Latvia. This system is used to check graduation papers after their uploading to the ORTUS environment. JCPCS complements and extends plagiarism identification opportunities.
2. Starting from 20 December 2017, RTU has been having Turnitin®, the world's leading tool for the correction of written papers and combating plagiarism that is used daily by millions of students and academics around the world. Turnitin® tool is integrated with RTU ORTUS e-study system and provides full service of submitting, correcting, verifying the originality (plagiarism) and return of the submitted papers. Turnitin® offers two main platforms: a platform that automatically checks for the percentage of non-genuine content (plagiarism) and a platform that allows to electronically correct the submitted papers. This tool is used to check all the electronic versions of graduation papers submitted for defence and further control measures are operatively implemented for potential plagiarism detection.

Graduation papers are checked in both systems in parallel, thus using the advantages of both systems. The developed Doctoral Theses are in a similar way controlled with extreme scrutiny. Since 2005, the Code of Ethics of RTU Students, Academic Personnel and Staff has been effective at RTU (see the file of Annex 19 of the List of Internal regulations). Academic Integrity Code, approved at the RTU Senate meeting of 29 February 2016. The aim of the Academic Integrity Code is to strengthen academic culture and integrity in the academic environment of RTU, to explain the

concept of academic integrity and related actions, to define main procedures in examination of academic fairness violations (in Latvian available at https://www.rtu.lv/writable/public_files/RTU_rtu_studiju_reglaments_7.1.1.4..pdf, English translation is in the file of Annex 38 of the List of Internal regulations).

There are procedures defined, how the report on the violation of the student's academic integrity is filled, registered, reviewed, and appealed. Informing and educating students about the aspects of academic integrity takes place both within the study courses and in specially organized seminars.

Both students and academic staff have access to the book "Glossary for Academic Integrity" published by RTU publishing house (available at <http://www.academicintegrity.eu/wp/glossary/>).

In addition, RTU participates in different initiatives that bring forward and solve academic integrity related issues. RTU is a member and one of the founders of the [European Network for Academic Integrity \(ENAI\)](#), where it is involved in active work sharing experience, keeping updated about academic integrity related issues, and organizing conferences. The Dictionary of Academic Integrity Terms and Guidelines is one of the newest aids that has been developed and published by RTU Press. In the framework of Specific Support Objective (SSO) 8.2.3 of the project "Development of Efficient Management of Riga Technical University", RTU, in cooperation with the University of Latvia (UL) and Rīga Stradiņš University, develops educational aids, as well as participates in the establishment of the Latvian national academic integrity organization and development of plagiarism control tools.

The organisational units implementing the study programme have developed a control mechanism, i.e., the initial check is performed in the process of interim assessment, which is performed by the work of the Advisory Examination Commission. When the student comes to these examinations, he or she should submit the electronic version of the performed work and the paper is checked in free plagiarism control tools in presence of the student. When students draft their graduation papers, they are instructed about plagiarism and its consequences several times. Methodological materials contain detailed instructions on correct presentation of references. This process allows to reduce plagiarism and highlights faults in the student's paper, which needs to be rectified. The generally accepted "good practices" show that more attention should be paid to the papers showing 20 percent or more matches. A message is received from the system, when the match level is higher than 20%. The papers are examined, reasons of matches in the text are evaluated and a decision is made whether the student should be allowed to defend his or her thesis.

Since there is only one graduate in the programs of the study field "Transport Services," examples of specific actions and specific cases are also not described.

2.2. Efficiency of the Internal Quality Assurance System

2.2.1. Assessment of the efficiency of the internal quality assurance system within the study field 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 field and the relevant study programmes.

RTU operates pursuant to "Constitution of Riga Technical University", which was approved by RTU Constitutional Assembly on 23 May 2022 (see the file of Annex 01 of the List of Internal

regulations).

In order to efficiently control implementation of RTU Strategy, RTU Strategy Management System has been established, which provides that strategic aims, activities and tasks are cascaded to the level of definite organizational units and their staff.

RTU has an internal quality management system in place in accordance with the RTU Quality Policy approved at the meeting of RTU Senate on 25 September 2017, Minutes No 612 (see: [RTU Quality Policy](#)) and the RTU Excellence approach approved at the meeting of RTU Senate on 30 January 2017, Minutes No 606 (see: [RTU Excellence Approach](#)). Since the study field is one out of 13 study fields implemented by RTU, and its internal quality management system accord and is integrated with RTU Quality Management System.

RTU Quality Policy is aimed at implementation of RTU mission and achievement of strategic aims – scientific research, academic, infrastructure and organizational excellence, and recognizability. The Quality Policy provides the framework for implementation of RTU Strategy, and the paths for development and improvement of research, study process and organization. RTU Quality Policy is reconciled with the ENQA standards and guidelines. RTU Excellence Approach and Quality Policy are reciprocally integrated documents, which determine that RTU employs the EFQM quality model.

The departments and institutes, faculty councils, the service of the vice-rector for academic affairs, the service of the vice-rector for development, the student parliament and the RTU Senate are involved in ensuring internal quality of studies at RTU. These institutions comprehensively evaluate the study fields and programmes to be newly created, as well as changes to study fields and programmes, evaluate annual self-assessment reports of study fields. The internal quality assurance mechanism of studies at RTU is functioning at the level of administration, faculties, study fields and study programmes of the university.

Study field Committees at RTU supervise academic activities in the respective study field and are responsible for curriculum of the study programmes within the study field, including accreditation of the study field. Members of student self-government are involved in ensuring the quality of the study field and study programmes implemented therein; they actively participate in the work of the decision-making bodies of the University: RTU Constitutional Assembly, RTU Senate, RTU Senate commissions and faculty councils.

At the faculty and study field level, internal quality is ensured by the FEEM Council, the Study Field Commission and the Director of the Study Field, the Director of the Study Programme, the Administration of the Institute or Departments implementing the study programme, as well as the FEEM Student Council. Internal quality control at the level of the faculty and the field of study shall be ensured by the deputy dean of the faculty for teaching work or by a person or commission delegated by him or her.

As examples of specific activities that have ensured the improvement and development of the study field and study programmes corresponding thereto, it can be mentioned that since the takeover of the study field from the Latvian Maritime Academy, 2 meetings of the Study Field Commission have taken place, within the framework of which several improvements have been made to the study programmes of the direction. Also, consultations of the program director with senior students are organized with the aim of discussing the topics and course of studies in order to be able to improve the study content. As an example, such discussions with students of the professional 1st level professional higher education study programme "Logistics" took place on February 4, 2023, and with students of the professional master's study program "Logistics and Supply Chain Security" on February 21, 2023. The meeting is also scheduled for the fall semester

2.2.2. Analysis and assessment of the system and the procedures for the development and review of the study programmes by providing specific examples of the review of the study programmes, the aims, and regularity, as well as the stakeholders and their responsibilities. If, during the reporting period, new study programmes have been developed within the study field, describe the procedures of their development (including the process of the approval of study programmes).

Study programme development and revision processes are regulated according to the "Procedure for Application, Elaboration and Amendment of the Study Programmes" (published at [RTU_studiju_reglaments_4.6._programmu_izstradasanas_kartiba.pdf](#) (in Latvian); the English translation is in the file of Annex 06 of the Internal regulations), which in detail specify activity sequence and parties involved, starting with drawing up an application for new study programme elaboration and finishing with study programme closure. Procedures are reconciled with the effective national regulatory enactments pertaining to study programme licensing and amendment.

Revision of the study programme curriculum is the responsibility of the Study field Committee. The responsibilities and activities of the committees are regulated by the "Regulation on the Study field Committee" (approved at the RTU Senate on 26 April 2021, Minutes No 649; published at [RTU_studiju_reglaments_4.7._studiju_virziena_komisijas_nolikums.pdf](#), (in Latvian); the English translation is in the file of Annex 07 of the List of Internal regulations).

Expert assessment of the study programme is performed by the Study field Committee, then – by the Faculty Council or the councils of several faculties involved. The expert assessment procedure is finalized by the Study Department. The Study field Committee evaluates the quality of the draft study programme and the compliance of its curriculum to the planned aims and tasks

In order to analyze study fields and obtain feedback, a survey cycle has been developed at RTU:

- When starting studies at RTU, a survey of students is conducted on the expectations from studies, availability of information, admission process. The survey is conducted electronically on the portal ORTUS.
- Every semester, a survey of students in the study program is conducted on the quality of the work of the teaching staff and the assessment of the study program. The survey is conducted electronically on the portal ORTUS, the results are received by each faculty member personally and the head of the structural unit. The results in an aggregated form are discussed at meetings of departments, at a meeting of the Commission of the Study Direction and at a meeting of the Faculty Council. After each graduation, a graduate questionnaire is conducted. The results are taken into account in the improvement of study programmes of the study field and discussed in methodological seminars.
- Regular centralized questionnaires of RTU employers are planned. Currently, employer questionnaires are conducted at the end of each student's internship, as well as within the framework of the development of study programs.

From the spring semester of the academic year 2020/2021, the mid-semester questionnaire has also been introduced

The following mechanisms are used to obtain feedback from employers. The RTU Council Convention consisting of representatives of various industries, advises the RTU Senate and Rector

on issues of strategy development. The convention has the right to initiate consideration of issues in the Senate and the Council Convention. The RTU Strategy and the development programme ensuring its implementation are presented to the Council Convention, decision-making bodies, cooperation partners, industry associations and leading companies, receiving comments and suggestions, which are incorporated into the RTU documents. The Vice-Rector for Development is responsible for the involvement of the parties, who finds out the existing needs, coordinates the main priority activities, implements recommendations and promotes sustainable development of RTU. Employers, as providers of internships at RTU, prepare online feedback on the student's knowledge and skills, thus also evaluating the relevance of the knowledge provided by the study programme to the needs of the industry. Rtu obtains the opinion of employers from the Council Convention, acting in sectoral associations, as well as from the assessments provided by employers on the portal [prakse.lv](https://www.prakse.lv) (RTU has been the most recommended higher education institution by employers - <https://www.prakse.lv/top> for several years in a row (only in latvian)).

Employers also take active part in the implementation of the study field by participating in the commissions of the study field, councils of professors, as well as in commissions of final works and in the review process. The commission of the study direction analyzes the recommendations of employers and external experts, on the basis of which the implementation of changes in study programs is organized. For more information on the involvement of employers in decision-making, see Section 5.1.2.

Feedback within study programmes is received through every semester student polling, regulated by the "Regulation on Student Polling for Assessment of the Study Process" (approved by the resolution of RTU Vice-Rector for Academic Affairs No 02000-1.1-e/8 as of 1 February 2021; published at https://www.rtu.lv/writable/public_files/RTU_anketesanas_nolikums.pdf (only in latvian); the English translation is in the file of Annex 20 of the List of Internal regulations).

Courses and seminars on the latest pedagogical methods are organized for academic staff, as well as attendance at refresher courses is promoted. Academic staff and study programme directors participate in various experience exchange activities, cooperating with higher education institutions of other countries, meeting with representatives of the relevant institutions and entrepreneurs, as well as mutually discussing current events in the field, students' research papers and projects, analyzing their results.

Once a study year, abstracts of study programme courses and course programmes, methodological materials, the latest study literature and methodological instructions for study papers (reports, study papers, practice reports and final papers) are reviewed.

In order to receive feedback from RTU graduates, RTU Alumni Association has been established. It actively operates at the University (<http://alumni.rtu.lv/>, <https://www.facebook.com/RTUAlumni/> (only in latvian)) and runs an online community platform (<https://rtuconnect.net/>), which aims at developing alumni traditions. The Association organizes various events, which bring graduates back to the University, allow for networking, cooperation among the graduates and with the University, and integration in University activities. RTU Grand Graduation Ceremony is a major event introduced by the Association; it gathers the respective year graduates from all RTU faculties, academic and general staff, as well as guests.

When developing the study programs "Logistics" and "Logistics and Supply Chain Security", the above techniques were used in the development of study programs. Taking into account the fact that the department implementing the study programme has considerable experience in the management of the study programmes "Management of International Economic Relations" and "Business Logistics", the accumulated experience from the management of the existing study programmes was used in the development of the new study programmes.

For reviewing programs in the field, the directors of study programs organized meetings in which the academic staff, students participated. Together analyzed the study process, what is taught, what is missing. Based on the recommendations, corrections were made to the programs.

2.2.3. 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 field and the relevant study programmes are communicated by providing the respective examples.

In order to promote continuous improvement of the quality of studies and provide students with the opportunity to submit proposals and complaints on various study-related issues in accordance with the ESG, in the reporting period from 2013 to mid-2019, at RTU, the examination of students' recommendations and complaints was carried out; this was done by involving the structural units to which the applications related, as well as the student self-government of the respective faculty.

A new document was approved in 2019 and now students' complaints and proposals are considered in compliance with "Procedure for Submission and Examination of RTU Students' Proposals and Complaints" (published at <https://www.rtu.lv/en/university/proposals-and-complaints> and attached in the section "Other Annexes" .

The procedure stipulate how RTU students can submit suggestions and complaints concerning the study process and other issues, determine the terms for consideration and reply to applications (if the applicant has provided contact details) and prepare a summary of application statistics.

Between March 2022 and March 2024, a total of 76 complaint/proposal applications were received, of which two were submitted completely anonymously, one was submitted anonymously, but with an indication of the email from which the complaint was received, and 73 were submitted openly. Out of a total of 59 applications, 59 were submitted by students and 17 were received from employees. There were 22 complaints, 17 proposals and 37 problems in total. Submission statistics received from students on eight topics (number of complaints or problems / number of proposals):

- IT related: 10/2
- Foreign Student Questions: 2/1
- Study process: 21/2
- Management issues: 3/0
- Dormitories: 8/0
- Scholarships: 2/0
- Work environment: 2/0
- Other business: 4/0

Submissions have been received from employees on six topics (number of complaints or problems / number of proposals):

- IT related: 3/5
- Study process: 2/1
- Work environment: 1/1
- Wages and salaries: 1/0

- Science process: 0/1
- Other business: 2/0

At the beginning of 2023, a total of 41 submissions have been received regarding a sudden change in the teaching format from correspondence to face-to-face, which constitutes 41% of all submissions submitted during this period. Evaluating the remaining submitted complaints regarding the study process, mainly the complaints are about the attitude and communication of the teaching staff, as well as inreachability in electronic communication regarding study issues. Comments were also received on topics such as the methods used in the study process; on the organization of face-to-face classes while the study process is planned remotely; on the procedure for submitting final papers for foreign students; someone has mentioned that there is insufficient inventory to ensure the study process. Several complaints have also been received about the fact that the next semester's schedule is not available in time. It should be mentioned that the Latvian students also recommended to review the lecture schedule and not to schedule one lecture per day, especially if it is face-to-face, because a large number of students do not live in Riga or very close to Ķīpsala, therefore, more time has to be spent on the way to one lecture than in the learning process itself. There was contact with the unfairness of final grade evaluations.

Other issues include problems such as loss of personal belongings; the amount of the deposited deposit for living in the dormitory has not been received.

The IT department has received a proposal regarding the first contact of new students with the university, there is not enough information about the first steps. The portal ORTUS contains outdated information. Several proposals for calendar synchronization have been received again. Problems with activating the mandatory student edu.rtu.lv e-mail. There have also been issues with creating a MS Teams student profile.

In the field of maintenance, a recommendation has been received to carry out large mechanical/economic works in the later hours at day, not in the morning, because the residents of the dormitory are still sleeping, especially during the final periods of the semester. Also received a comment about the unavailability of class schedules at the portal ORTUS. Complaint about complex room access system for employee's identification cards.

There were no clear conditions for scholarships, how and where to apply. Two complaints were received from same person about not receiving the scholarship when it was supposed to. As there was a misunderstanding between the scholarship approval and only approval of the received application, here is a suggestion for improving communication

In the cultural field, it is recommended to think carefully about the event on the first of September in the Colonnade, because, unfortunately, only the front rows can see and hear the entire program, and those standing further down neither see nor hear what is happening.

In dormitory mostly have problems with the presence of various insects in both shared and personal rooms, where the comment that the resident has been facing this problem for two years. Complaints also about the noise of neighboring residents.

The list of problems and complaints of foreign students mainly consists of comments about the change of study format and its announcement only a week before the change.

The FEEM administration always listens to students' suggestions and complaints and ensures that all issues are resolved. The FEEM Student Council is active, which organizes a meeting with the elders of each course groups of study programs to discuss current information and problems, if there are any shortcomings, then the representatives of the self-government immediately turn to the administration to eliminate them.

Any complaints or suggestions can still be submitted through the Student Council. For example, a student has a complaint/suggestion. The student sends it to the council, the council sends it to the study department or responsible persons who could solve the problem or consider the recommendation.

Students can pass on any complaints or suggestions to the study management and faculty through the senior of the course. It is an elected student who takes responsibility for communicating with faculty and informing coursemates of any changes that faculty members or part of their studies wish to communicate to students. The senior of the course is in each study course and is often seen and achievable also by the student in person.

In order to create even more student-oriented learning environments, both RTU students and RTU academic staff have the opportunity to write letters to RTU Rector. Written letters can be both anonymous and signed. In this way, everyone can make sure that the recommendation/complaint will reach the highest stage of the RTU governance structure. For students and academic staff, such an opportunity is available in the RTU study portal ORTUS.

The management of the study field continuously monitors the study process and always listens to students' proposals and complaints and ensures that all issues are resolved. Following the initiative of RTU FEEM Student Council, every semester meetings are organized with the management of RTU study field "Transport Services" and representatives of the FEEM Student Council (often with the participation of seniors of course) to discuss improvements in the study process and listen to proposals on current issues of students.

Within the framework of the study field, students of study programmes have a meeting at the beginning of the academic year with the management of the study field in order to introduce the 1st year students to the academic staff and the study programme. 2nd and 3rd year students provide feedback on how the last academic year went from the point of view of students, as well as during the meeting students have the opportunity to make suggestions for improving the study process.

Every year there is a meeting of the study field, where the previous learning process is discussed and the received recommendations for the improvement of the study process are discussed.

During the assessment period, a small number of complaints were received in writing within the framework of the study field (addressed to LJA), all of them were dealt with in the prescribed manner. For example:

- During the reporting period, one appeal was considered. It was submitted on December 18, 2018 by a 5th year student of the LJA study program "Port and Shipping Management". The essence of the appeal filed is the claims against the assessment of the thesis defended. For the consideration of the appeal with the rector of LMA on 21.12.2018. Order No.04.6/98 established an Appeals Commission. Decision of the Appeals Board: Dismissal of the appeal is unfounded, which, after considering the boards arguments, was also accepted by the appellant.

Within the framework of the field of study, as a rule, students report existing problems in a particular course, and the management of the department or study program in the form of negotiations solves this with the responsible teaching staff.

Complaints about the new programs of the study field have not been received when submitting the documents.

2.2.4. Provide information on the mechanism for collecting the statistical data, as developed by the higher education institution/ college. Specify the type of data to be collected, the regularity of collection, and the way the information is used to improve the study field. Describe the mechanism for obtaining and providing feedback, including with regard to the work with the students, graduates, and employers.

RTU Quality Policy provides the framework for implementation of the Strategy, the paths for development and improvement of research, study and organization processes. RTU Quality Policy and implementation thereof employ a fact-based approach – decisions are based on the acquired objective data, information analysis and monitoring.

RTU draws up quality reviews based on the analysis of processes and their results. Quality reviews are drawn up once a year, summarizing the data on performance indicators of RTU administration, core activities and support processes.

28 performance indicators characterizing process quality are set for one of the RTU core activity process "Organization and Management of the Study Process". The data are summarized once a year for the previous academic year by study level and study programme.

Performance indicators characterize the quality of entrant enrolment process, study process planning and the quality of implementation of studies - implementation of the initial admission plan, number of matriculated entrants vs. number of entry applications, number of entry applications with RTU as the first priority vs. all matriculated students, number of graduates vs. total number of students, number of exmatriculated students (except for graduates) vs. total number of students, number of students with academic arrears vs. total number of students, number of students exmatriculated due to academic failure vs. total number of exmatriculated students, number of timely signed learning agreements vs. all signed learning agreements, etc.

Observing the current study programme performance, reachable qualitative or quantitative aims are set for the indicators, when possible, e.g., 65 percent of graduates of RTU undergraduate study programmes continue studies at graduate study programmes.

The data in the quality review that is submitted to RTU administration are analysed by study level, by faculty and study field. Indicators of numerous study programmes are compared with the general average RTU level.

The Study Department organizes further review and data forwarding to the faculties and directors of the study programmes, whereas process managers introduce the necessary improvements. Changes to the approved processes occur in cooperation with quality management specialists.

In addition to performance indicators characterizing study process quality, which are summarized in the review, a study programme quality visualization tool has been created in Power BI environment, which will be used to reflect Bachelor and Master study programme performance in an academic year with the help of radar chart. In the chart, study programme results at each study level will be presented comparatively - in relation to the best performance at the respective level. The tool is envisioned for the directors of the study programmes and faculty administration to facilitate collection of transparent information on each study programme performance considering numerous indicators simultaneously, as well as to rank the programme in relation to the best performance. It will be also possible to compare the programme performance in several academic years. The tool is currently at the development and test phase. Performance indicators of 11 study programmes are planned to summarize in the radar chart: academic staff vs. number of students, academic staff

with scientific degree, ratio of graduates to the number of matriculated students, number of students who continue studies (not exmatriculated), proportion of foreign students, number of outbound mobility students, Bachelor programme graduates who continue studies at RTU, number of matriculated students from the respective Bachelor study programmes, average assessment of the study programmes in student polls, number of study materials published on ORTUS e-study system and applicability thereof, as well as financial revenue generated by study programmes per student. Comparative reviews of the study programmes results will be available to directors of all RTU study programmes. It is planned to develop and improve the tool for collection of statistical data necessary for evaluation of the study programme performance and data visualization within the framework of SSO 8.2.3 project.

In addition, RTU Study Department summarizes and annually submits until 15 October to the Central Statistical Bureau and the Ministry of Education and Science a statistical review "Review of the University, College at the Beginning of Academic Year 20_/20_" (Cabinet Regulations No. 812 of 20 December 2016, Annex 5 (<https://likumi.lv/doc.php?id=287576> (in Latvian))). The Review contains the following information (sources of information and/or RTU employees responsible for data collection are indicated in parentheses).

- Distribution of students by study programme (Study Management System| Reports | University Review at the Beginning of the Academic Year).
- Enrolment results (University Review at the Beginning of the Academic Year).
- Students having obtained a degree or qualification in the academic year (University Review at the Beginning of the Academic Year).
- Distribution of enrolled students by age (University Review at the Beginning of the Academic Year).
- Distribution of students by age (University Review at the Beginning of the Academic Year).
- Distribution of students having obtained a degree or qualification by age (University Review at the Beginning of the Academic Year).
- University staff in the reporting year as of 1 October (Administrative Office);
- Premise floor area (the Unit of Legal Provision in Real Estate Issues).
- University revenues in the previous year (Planning and Economic Analysis Unit).
- Budget expenditure of the University in the previous year (Planning and Economic Analysis Unit).
- Number of students, who reside in student hostels (Study Organization Unit).
- Number of students by the language of instruction.
- Distribution of enrolled students by place of residence (University Review at the Beginning of the Academic Year).
- Number of mobility students in the total number of students (University Review at the Beginning of the Academic Year).
- Number of mobility students in the total number of students who have obtained a degree or qualification (University Review at the Beginning of the Academic Year).
- Own revenue from allocation of the mobility student tuition fees by country in the previous year (International Cooperation and Foreign Students Department).
- Revenue from allocation of foreign financial study grants by country in the previous year (Project Financial Management Unit).
- Revenue from allocation of foreign financial study grants for research by country in the previous year (Project Financial Management Unit).

Summarized statistics on the number of students/graduates are used for the following purposes:

- Improvement of the study field. For example, if at some study programme the annual number of student dropouts is much higher than the number of graduates who obtained

degree/qualification, the causes of such a situation are sought for with scrutiny.

- If at some study programme the number of enrolled students decreases annually, the cause should be identified, and potential programme closure should be considered.
- Allocation of financing (for state budget funded seats).
- Compilation of RTU information materials, press, etc.

In order to analyse study fields and receive feedback, RTU has developed a polling cycle:

- When starting studies at RTU, a survey of students is conducted about expectations from studies, availability of information, admission process. The survey is conducted electronically on the portal ORTUS.
- Each semester, the polling of the students at a study programme is conducted to find out student opinion about instructor's work quality and obtain evaluation of the study programme. Polling is conducted electronically in portal ORTUS, the results are received by each instructor personally and the head of the organizational unit. The summary of the results is summarised at department meetings, at the meeting of the Study field Committee and the meeting of the Faculty Council.
- After each graduation round, polling of the graduates of Bachelor and Master programmes is conducted. The results are taken into consideration in the improvement of the study programmes within a study field and discussed at methodological seminars.
- Annual polling of Doctoral students and Doctoral alumni has been introduced, it is also planned to conduct surveys of Doctoral entrants. The polling on the admission procedure and study process has been launched. The summaries of results are published on portal ORTUS. The results are taken into consideration in the improvement of Doctoral study process and the quality of support provided to doctoral students.
- It is also planned to run regular centralised polling of RTU employers. Polling of employers presently takes place at the end of internship of each student, as well as within the scope of development of study programmes.

The following mechanisms are used to obtain feedback from employers.

RTU Council Convention, composed of representatives of different sectors, advises RTU Senate and Rector on the RTU Development Strategy. It has the right to propose an issue to the Senate and the Constitutional Assembly. The RTU Strategy and its development program are presented in the RTU Council Convention, the decision-making bodies, as well as to cooperation partners, industry associations and leading companies, with feedback and suggestions being incorporated into the RTU documents.

The involvement of stakeholders and the realization of major projects is the responsibility of the Vice-Rector for Strategic Development. He clarifies existing needs, coordinates key priorities and activities, implements recommendations and promotes the sustainable development of RTU.

Employers, as providers of the internship of RTU students, after completing the practice, prepare online feedback on the knowledge and skills of the student, thereby also assessing the relevance of the knowledge provided by the study programme to the needs of the industry.

Employers' feedback is obtained also from the Council Convention, composed of representatives of different sectors and industry associations, as well as from the assessments provided by employers on the portal [prakse.lv](https://www.prakse.lv) (RTU is the most recommended university at <https://www.prakse.lv/top> for several consecutive years (information available only in Latvian)).

Feedback within study programmes is received through every semester student polling, regulated by the "Regulation on Student Polling for Assessment of the Study Process" (approved by the resolution of RTU Vice-Rector for Academic Affairs No 02000-1.1-e/8 as of 1 February 2021;

published at https://www.rtu.lv/writable/public_files/RTU_anketesanas_nolikums.pdf (in Latvian); the English translation is in the file of Annex 20 of the List of Internal regulations).

Study programme study course abstracts and course programmes, methodological materials, newest educational literature and methodological instructions for study papers (reports, study papers, internship reports and graduation papers) are reviewed once an academic year.

Courses and seminars on latest teaching methods are organised for academic staff, as well as attendance of courses to improve qualification is promoted. Academic staff and heads of study programmes participate in different experience exchange activities cooperating with universities of other countries, meeting representatives of respective institutions and businessmen, as well as discussing among themselves latest developments in the sector, research papers and projects of students by analysing their results.

The Study field Committee analyses recommendations from employers and external experts, which are used as the basis for improvement of the study programmes.

In order to receive feedback from RTU graduates, RTU Alumni Association has been established. It actively operates at the University (<http://alumni.rtu.lv/>, <https://www.facebook.com/RTUAlumni/> (information available only in Latvian)) and runs an online community platform (<https://rtuconnect.net/>), which aims at developing alumni traditions. In order to ensure the transfer of experience from graduates, the RTU Alumni Association provides mentor training, database maintenance, as well as mentors and mentee matching. The RTU Alumni Association organizes various events, which bring graduates back to the University, allow for networking, cooperation among the graduates and with the University, and integration in University activities. RTU Grand Graduation Ceremony is a major event introduced by the RTU Alumni Association; it gathers the respective year graduates from all nine RTU faculties, academic and general staff, as well as guests.

Analysis of the survey results of students, graduates and employers regarding the study programs included in study field "Transport Services" is added in annex (see Annex 8. Analysis of the results of surveys of students, graduates and employers).

2.2.5. Specify the websites (e.g., the homepage) on which the information on the study field 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 (State Education Information System (VIIS), E-platform).

Detailed information on the study field and the study programmes pertaining to it with the indication of the languages of instruction is available at RTU web page:

1. RTU web page in the section on education opportunities in the Latvian language (<https://www.rtu.lv/lv/studijas>) (responsible person – I. Bušovska, Head of the Admission Department);
2. RTU web page in the section containing comprehensive information on education opportunities in the English language (<https://www.rtu.lv/en/studies>) (responsible person – Z. Purlaura-Poriņa, Director of International Cooperation Department);
3. Interactive web pages dedicated to RTU study fields, study programmes therein, as well as the detailed description of the offered study courses in the Latvian and English languages

(<https://stud.rtu.lv/rtu/vaaApp/sprpub> and <https://stud.rtu.lv/rtu/discpub/list?english=true>) (responsible person – G. Alksnis, Deputy Director of the Study Department);

4. Web page designed for the foreign student target audience on RTU study programmes implemented in English and student mobility opportunities (<https://international.rtu.lv>, <https://apply.rtu.lv>) (responsible person – Z. Purlaura-Poriņa, Director of International Cooperation Department);
5. Higher Education Quality Agency E-platform (responsible person – G. Alksnis, Deputy Director of the Study Department);
6. State Education Information System (responsible person – I. Pujats, Project Manager of the Information Technology Department).

In addition to providing the necessary information to potential and existing students, as well as participants in the lifelong learning study process, the faculty and department implementing the study programmes actively uses the social networks of its website, where we regularly share the news of the faculty and institute on the study process, admission, scientific achievements and the events we organise, including school visits, lifelong learning courses, etc by using website and social media platforms of the Faculty of Engineering Economics and Management (FEEM). The head of public relations of the faculty (at the faculty level) is responsible for updating information on websites and social networks.

- RTU FEEM website in Latvian - <https://www.rtu.lv/lv/ievf> and English - <https://www.rtu.lv/en/feem>
- FACEBOOK site - @RTU. IEVF
- Instagram site - @rtu_ievf.lv
- Twitter site - @RTU_IEVF
- Draugiem.lv site - @ievf.rtu

2.3. Resources and Provision of the Study Field

2.3.1. Provide information on the system developed by the higher education institution/college for determining and redistribution of the financial resources required for the implementation of the study field and the relevant study programmes. Provide data on the available funding for the scientific research and/or artistic creation activities, its sources and its use for the development of the study field.

According to the Conceptual Report “Introduction of a New Higher Education Financing Model in Latvia” approved by the Cabinet on 29 June 2015 (<http://likumi.lv/ta/id/274944-par-jauna-augstakas-izglitiba-finansesanas-modela-ieviesanu-latvija>, in Latvian), Latvia has introduced structural reforms in the sector to ensure the development of an efficient and sustainable higher educational system. A three-pillar funding model has been introduced to reconcile the supply offered by higher education with the needs of Latvia's economic development and labour market, high-quality research-based higher education content and performance management in higher education institutions. The base funding for the provision of the study process is the 1st pillar, performance funding is the 2nd pillar, and development funding is the 3rd pillar.

The first pillar, or base (base funding), is implemented through state budget funded study seats.

Determination of the number of state budget funded study seats are regulated by Sections 51 and 52 of the Law on Higher Education Institutions (<http://likumi.lv/ta/id/37967-augstskolu-likums#p-50515>, (in Latvian)).

RTU funding from the basic state budget is made up of the study base financing corresponding to the list of study programmes and the number of students; it is used to cover such expenses as utilities, taxes, infrastructure maintenance (including data for the Student and Graduate Register), purchase of equipment and supplies, staff remuneration, and funding for research activities.

The number of study seats is allocated after discussions with the Ministry of Education and Science. Funding from the state budget is allocated for full-time studies.

The amount of study base funding is determined on the basis of the number of study seats determined by the state at RTU, as well as the state-defined study seat basic expenses and study cost coefficients in the thematic areas of education.

Study cost coefficients for thematic areas of education are indicators that determine the amount of study seat costs in the respective thematic area of education in relation to the basic costs of the study seat.

The cost coefficients for the study programmes in the thematic areas of education for Bachelor and professional study programmes are set by in Annex 1 of Cabinet Regulations of 12 December 2006 "Procedure for Financing Higher Education Institutions and Colleges from the State Budget" (<https://likumi.lv/doc.php?id=149900> (in Latvian)) (further in the text - the Regulations).

Values of study cost coefficients are 1.5 times higher for Master study programmes and three times higher for Doctoral programs than the study cost coefficients specified in Annex 1 to the Regulations for the respective thematic area of education.

The amount of the study funding granted to the institution of higher education or college from the state budget for the implementation of Bachelor, professional and Master study programmes is calculated using the following formula:

$$F_s = T_b \times [S(k_i \times n_i) + 1,5 \times S(k_i \times m_i)] + S_b \times S(n_i + m_i), \text{ where}$$

F_s – the amount of study financing;

T_b – basic costs of the study seat;

k_i – coefficient of the study costs in the relevant field of education (Annex 1 to the Regulations);

n_i – the number of study seats for a higher education institution or college at undergraduate and professional study programmes in the relevant thematic area of education;

m_i – the number of study seats at the Master study programmes in the relevant thematic area of education;

S_b – study seat social security expenses at undergraduate, professional and Master study programmes (Annex 2 to the Regulations).

The basic costs of a study seat and the social security expenses of a study seat are determined in accordance with Annex 2 to the Regulations.

Each year, the Ministry of Education and Science calculates the basic costs of a study seat for the following budget year and, by November 1 of the current year, coordinates the calculations with the Ministry of Finance and those Ministries which have higher educational institutions and colleges subordinated to them.

RTU funding from the state basic budget for the provision of study seats in the respective academic year is distributed in accordance with the decision of RTU rector "Methodology for the distribution and use of funding for the structural units of RTU in academic year 2023/2024" (see the file of Annex 16 of the List of Internal regulations; hereinafter – the Methodology). The Methodology is reviewed and revised every year and is subjected to any necessary changes.

RTU has a decentralized budget, and each organizational unit is allocated a separate budget. In a general sense, a budget is a plan of revenues and expenditures for a specific period of time, work, event or function. The revenues and expenditures of RTU shall be administered in accordance with principles approved by rector or as stipulated by the Vice-Rector for Strategic Development and Finance.

According to the Budget Allocation Methodology, the financing is allocated to the organizational units either according to the financial or budget year or immediately after receiving the financing. The financial or budget year of RTU organizational units is from October to September of the following year, and for this period the financing is calculated and distributed:

- Subsidy or basic budget funding (training of state budget funded students) is divided into monthly limit – 1/12 of the estimated annual funding per month is allocated to the organizational unit;
- Tuition fee funding (training of both local and foreign fee-paying students) is allocated twice a year (in October and April) as a monthly limit – 1/6 of the estimated funding per semester is allocated to the unit monthly;
- Debtors' payment funds (including recovered) are distributed twice a year (October and April) in one payment;
- Performance funding (research support funding) is allocated as a monthly limit – 1/12 of the estimated annual funding is allocated to the unit per month;
- Research base funding (research support funding) is allocated annually in October.

Each head of RTU organizational unit is provided with remote access to operational financial information on the unit's budget, including the envisaged workload and correspondingly allocated funding for the implementation of study programmes and study courses in subsequent periods. Based on this information, the head of the organizational unit plans the work of the unit at the beginning of each financial or budget year, including remuneration issues for academic staff members who are subordinate to the head of the unit, and develops a procurement plan for the following year in compliance with the implementation and development of the study programme or study course, etc.

According to the World Bank research on higher education governance in Latvia, which was conducted in 2017 and 2018, the World Bank concluded that RTU used the opportunities offered by the system-level funding model reform to gradually adjust the internal distribution of decision-making powers by strengthening the position of deans. Prior to the introduction of the second pillar of the state funding model, RTU funding was provided to units below the level of faculties. To address the issue of weak positions of deans, more than half of the new 2nd pillar performance income is used to provide funds to faculties where the dean is the budget holder. First, it opens up new opportunities for faculty-level strategic development. Second, deans now have greater opportunities to ensure the development of faculties, which is their responsibility. Third, since the academic year 2019/2020, deans of the faculties have additional funding from the tuition fees of foreign students.

In the academic year 2020/2021, RTU has made changes in the Methodology to ensure that the basic state budget funding for the provision of study seats is distributed by study programmes and thematic areas of study courses, ensuring precise distribution of funding according to the indicators

by which RTU receives the state budget funding. In addition to the seats financed by the state basic budget, the study programme financing also consists of tuition fee revenue from the resources of natural or legal persons, which can be divided into two subgroups:

1. revenue from local fee-paying students;
2. revenue from foreign fee-paying students.

Funding from local fee-paying students is allocated in compliance with the Methodology where, in order to provide greater opportunities for the development of fee-based study programmes, for several academic years, a significant amount of the funding received has been channelled to the head of study programme, who may appropriately use this funding to renew facilities and attract higher-level specialists for the implementation of the study process, etc.

Until academic year 2021/2022, the funding from foreign fee-paying students in a respective academic year was allocated in accordance with the Resolutions of RTU Senate "On Approval of the Methodology for Allocation of Funds for Study Process Provision at the International Cooperation and Foreign Students Department" in the Respective Academic Year (see the file of Annex 41 of the List of Internal regulations; hereinafter – Methodology2). It was revised and approved every year taking into account necessary changes.

Starting from 2022/2023 acad. year RTU has one "Methodology of funding distribution and utilization for RTU structural units" (only in latvian) approved by the order of the rector, which includes the distribution and utilization of funding from the state funds, local student fees, and foreign student fees. This year, RTU made significant changes in the Methodology in order to bring the principles of distribution of foreign fee-paying students closer to the principles of distribution of local fee-paying students, thus facilitating the work process responsible for the realization of study programmes – both by bringing the funding distribution periods and principles closer.

Analysing the financing procedure of the study programmes and the study fields at RTU as a whole, it can be seen that the state basic budget and local fee-paying student funding, in the long run, are determined taking into account the basic principles established by the state (starting from 2022/2023. acad. year, the principles of calculation for foreign students have been equated to the principles of calculation for local students). In the process of determining the amount of funding, the study cost coefficients of the thematic areas of studies and the values of the study cost coefficients according to the level of the study programme, as well as the number of students at the study programme and the study courses implemented therein are taken into account. As mentioned above, by using study cost coefficients of the thematic areas of studies, it is possible to determine the amount of financing required for the implementation of a particular study programme and study course. In the Methodology for the academic year 2018/2019, RTU Senate approved that in the future the study cost coefficients of the thematic areas of studies would be applied individually to each study course of the study programme, thus ensuring an even more appropriate amount of financing for the implementation of study courses included in the study programmes. In order to implement this system, the Expert Committee was established by order of the Vice-Rector for Academic Affairs, who determined thematic areas of studies for each study course.

RTU has the following thematic areas and the applicable coefficients for study courses of the study field:

Table 2.3.1.

Thematic area of RTU study courses

RTU coefficient

Transport	2.9
Management and administration	1.4
Logistics	1.8

In order to ensure the functioning and sustainable development of study programmes, RTU has been improving the Methodology and previously also Methodology² for each academic year in accordance with changes in the external and internal environment, thus also eliminating possible risks in the implementation process of the study programme or its study courses. The transition process involves all stakeholders, thus ensuring transparency, as well as a transparent decision-making process. The required changes are at first initiated by RTU Vice-Rector for Strategic Development and Finance, and additional changes can be initiated by any RTU employee by submitting a request to RTU Vice-Rector for Strategic Development and Finance and Development or to the Finance and Budget Committee of RTU Senate. The Finance and Budget Committee of RTU Senate consists of 20 senators (the count might vary) - deans, heads of organizational units of faculties, professors, as well as student representatives, who have voting rights, as well as nine RTU Senate advisors, who are mainly representatives of various administrative units, such as vice-rectors, heads of departments etc. Once the Finance and Budget Committee of RTU Senate has considered and evaluated the proposals, it shall propose amendments to the Methodology or develop a new version of it for the next academic year for approval by the RTU Senate 35 senators. After the Senate has agreed on the Methodology draft and its main principles, the rector approves the Methodology. It should be noted that historically changes in the Methodology have been proposed after performing a thorough analysis, including mitigation of their possible negative impact on the implementation of study programme study courses.

The funding of the study field "Transport Services" has been stable in recent years. The basic flow of funding in the financing of study programs is provided only by students' own funding.

Since the beginning of the financial year 2018/2019, in addition to information on the budget of each subordinate structural unit, RTU heads of structural units have been provided with a regularly updated report on the overall financial results of the study process of the faculty, thus providing not only the dean, but also the directors of institutes, heads of departments and other structural units with objective information on performance results. The introduction of the report ensures not only the transparency of information, but also the possibility for the dean of the faculty and the council to react promptly in situations where it is necessary, for example, the review of individual expenditure items within the framework of the total funding.

The funding of the FEEM of the main implementing structural unit of the study direction "Transport Services", thus also the funding for the implementation of study programmes and the maintenance of study programmes related to the improvement of the study process (for example, scientific-research bases), consists of the following sources of resources:

- Funding from companies and individuals, covering tuition fees, including foreign student fees;
- Funding from other sources (projects, contract work, etc.): these funds are indirectly attributed to the implementation of academic study programmes – purchased infrastructure for laboratories (equipment equipment, etc.) and practical classes (e.g. modelling computer programs) and lectures (e.g. scientific literature, databases of scientific articles);
- Indirect funding – (1) European Union and national funding programmes for the upskilling of academic staff and (2) European Union programmes and different national funding programmes for the implementation of exchanges of academic staff and students. Due to the fact that these funds are not directly accounted for in the financial systems of RTU, since

they are often individual payments to faculty and students, the financial summary for them is not available and is not reflected in the report.

Research base funding (base funding provided by the state) is allocated among faculties according to the performance-based output indicators, i.e., number of publications (weighted by impact and citation), money attracted by research projects and industry contracts, and defended Doctoral Theses (considering also the time it takes to complete Doctoral studies). The calculation is made based on the transparent methodology, which was approved by the Science Council (the document: "Methodology for Allocation of Research Base Funding to RTU Organizational Units") on 20 November 2018. A decision regarding allocation of the budget among faculty institutes is made within faculties (by the Faculty Councils).

RTU also makes two project calls a year with internal funding. The first call is an internal funding project competition to support master's students. The purpose of the competition is to increase the number of highly qualified master students at RTU who are able to create internationally cited scientific publications and continue their doctoral studies, thereby strengthening the development and capacity of RTU scientific staff. The purpose of the competition corresponds to RTU strategy – to promote the employment of graduates at RTU after the end of their studies, and increase the number of internationally recognized scientific publications, the development of high-quality scientific research that is integrated into the study process. The result of such a project is a master's student employed in scientific activity, at least one full-text publication submitted and accepted for each grant recipient, a scientific article in a journal or a full-text publication in a conference proceeding, the scientific assistant's skills in doing science and research are promoted, and the continuation of the master's student studies in RTU doctoral program is promoted. For three years, the annual budget of the competition is 120,000 euros, thus supporting at least 17 master's students every year.

The 2nd call supports projects where RTU cooperates with industry partners, and this call is aimed at promoting inter-faculty and inter-disciplinary research within six research platforms of RTU. The regulation documents are usually approved by the Science Council of RTU. However, the decisions regarding selection of particular researchers or projects are made by expert groups organized by the Office of Vice-Rector for Research, on the faculty level or the research platform level (Council of Coordinators of Research Platforms; decision of RTU Senate No. 600 "On Approval of the Regulation of Coordinators' Board of the Research Platform at Riga Technical University" as of 23 May 2016. Projects are administered by the Office of Vice-Rector for Research. The Office also coordinates administration of the externally funded research projects, e.g., within Horizon 2020 program and other. Research projects funded by the EU Structural Funds are administered by the Office of Vice-Rector for Strategic Development.

RTU Research and Innovation Support Fund (Rector's order No. 01000-1.1-e/48 "RTU Regulation of Research and Innovation Support Fund" as of 2 February 2024) aims at providing financial support for various research related activities, such as support for maintenance of research equipment, protection and licensing of intellectual property, covering of expenses related to the Doctoral study process, publishing of scientific journals, participation and organization of scientific conferences, support to researchers in establishing new laboratories in a prospective research field. The Research and Innovation Support Fund is an instrument to support research activities, which foster the development of the strategically important research fields. 10 % of the research base funding (state budget funding) is allocated to the Research Support Fund every year. Establishment of seven new laboratories or centres has already been supported by the Fund by June 2020, e.g., RTU High Energy Particle Physics and Accelerator Technology Center (for cooperation with CERN), Biochip Laboratory, Scientific Laboratory of Experimental Mechanics of Materials, Scientific Laboratory of Electromechanics, Research Center of Communication System Technologies.

Research Laboratory of Technologies of Electrical Engineering and Ergonomics. Scientific Council has decided to support on competition basis at least one new prospective research direction every year (decision of RTU Scientific Council No. 04000-3/09 dated 21.09.2020).

Several doctoral theses have been defended by the academic staff of the study field. The subject of the research is directly related to both the development of the study field of transport services and the solution of thematic and practical problems in the field of transport and storage. As an example, can be mentioned J. Hudenko's doctoral thesis defended in 2017 on the topic "Development and application of optimal development models of public railway infrastructure". Also, lecturers of the study direction create both local and international publications on current topics in this field.

2.3.2. Provide information on the infrastructure and the material and technical provisions required for the implementation of the study field and the relevant study programmes. Specify whether the required provision is available to the higher education institution/college, available to the students, and the teaching staff.

The construction of RTU Ķīpsala campus began in 1965 with the aim to create a unified study and research centre. The construction process is underway, and from 2021 the majority of university students is located in Ķīpsala. After completion of the construction, RTU Ķīpsala campus will become the most modern engineering study centre in the Baltic States.

The issue of sustainable development is taken into account in the construction process of the campus. Recognizing its concern for sustainable development and demonstrating its willingness to engage in the promotion of sustainable development, RTU has joined the [Sustainable Development Solutions Network](#), which seeks to achieve the 17 UN Sustainable Development Goals (SDGs) by 2030. RTU is currently the only organization in the Baltic States that has been admitted to the network.

Through its networking activities, RTU, as a higher education and research institution, has prioritized the achievement of seven UN SDGs that coincide with RTU research platforms. RTU considers the provision of quality education and the promotion of lifelong learning to be its primary goal. RTU also intends to contribute to research and innovation in sustainable and modern water technologies, power systems, infrastructure and urban environment. The University is also committed to promoting the creation and distribution of sustainable products.

RTU buildings are equipped with state-of-the-art climate control equipment, technical solutions that are remotely controlled and provide the opportunity to track energy consumption to make buildings more comfortable for students, academic staff, researchers and guests. One of the results achieved in the development of RTU infrastructure is the participation in the Green Metric Ranking (<https://greenmetric.ui.ac.id/rankings/overall-rankings-2023>), which recognizes RTU as the 45th greenest university in the world. In the Baltic region, RTU is a leader in terms of green thinking infrastructure.

To reduce human impact on the environment and climate change, RTU has introduced the concept of Green Ķīpsala at its campus by improving its infrastructure in compliance with sustainability principles, changing student and staff habits, and using innovative green products and technologies developed by RTU researchers in Ķīpsala campus infrastructure.

The infrastructure of Ķīpsala campus provides students, staff and guests with all the necessary services and utilities, e.g., it is possible to park a bicycle and a car, quench one's thirst at water

drinking points. Developing the infrastructure, care is taken of all groups of people, including people with disabilities: each building has parking lots, easy access to classrooms, laboratories and other facilities, the use of Braille to provide essential information, as well as all sanitary facilities are designed according to the requirements. The association of people with disabilities and their friends APEIRONS (<https://www.apeirons.lv/>; in Latvian) commends RTU for its achievements in infrastructure related issues for people with disabilities.

In RTU Ķīpsala campus, there are currently 54 classrooms, 187 laboratories, 19 special training rooms, 10 computer classrooms, 12 workshops and several research centres of national importance. The campus also houses a hostel with 950 beds and a special area for people with disabilities.

Foreign students, visiting lecturers and university guests can use the renovated RTU student accommodations (Āzenes 22a, Riga).

Other elements of RTU infrastructure are also available for the needs of students and lecturers - canteens and cafes located in each of RTU complexes, photocopiers, hostels, RTU sports and recreation centres, swimming pool, etc. RTU premises are equipped with drink and snack vending machines.

Wi-Fi is provided in all classrooms of the campus which allows students to access study materials placed on the RTU study portal ORTUS.

The Faculty of Engineering Economics and Management is located in Riga, Kalnciema Street 6. FEEM location has a developed infrastructure, where public transport stops, cafes, a supermarket, a sports center are conveniently accessible.

The total useful area of the FEEM building is 6627 m² with five ground floors, as well as the plinth. Bicycle parking spaces and more than 50 parking spaces are available. The faculty provides access for people with special needs. The territory is landscaped, driveways asphalted, paved pedestrian sidewalks, manicured lawn, benches.

On each floor of the faculty building, amenities are available, a specialized drinking bowl of water is available. There is an elevator, an open wardrobe and reading room, several lounges, student study rooms, auditorium and faculty offices, boardrooms, the Museum of Customs and Tax History, as well as a café.

Training block at Kalnciema street 6, Riga

Table 2.3.2.

No	Type of use of premises	Number
1	Auditorium	30
2	Laboratory	5
3	Dean's cabinet./Dean's Office	2
4	Cabinet	33
5	Academic staff – consultation room	29
6	Methodical cabinet	2

7	Student Parliament Room	1
8	Boardroom	1
9	Customs Museum	1
10	FEEM History Museum	1
11	Canteen	1
12	Auxiliary premises, sanitary facilities, warehouse, wardrobe	27
Total:		133

The implementation of the study field is related to the material and technical provisions and infrastructure of RTU and FEEM. The study process and scientific activities of the study field “Transport Services” take place in RTU buildings in Riga: Kalnciema Street 6 and in the entire RTU Kipsala campus, which includes a library, a sports centre and other infrastructure elements that are described above.

The RTU Faculty of Engineering Economics and Management at Kalnciema Street 6, constantly sees that the rooms and their technical equipment meet quality requirements, relevant auditoriums with necessary multimedia equipment have been created (see Table Material and technical provisions for the implementation of the study direction).

Technical equipment

Table 2.3.3.

Devices	FEEM, Kalnciema street 6
Laptops and tablets	66
PCs	128
Monitors	125
Copiers, including scanners	12
Projectors	38
Printers	35
Portable data terminal with a printer for stickers	2
Television sets	2

Equipment of auditoriums is improved and cosmetic repairs in auditoriums and halls are performed every year to ensure the study process. Since September 2019, four large auditoriums at Kalnciema Street 6 have been equipped with HP Shareboard digital cameras allowing to capture and save in a digital format everything written on a whiteboard during lectures. All the saved materials may later be available and used by students in a digital way in the RTU e-study environment ORTUS.

In 2018, multimedia equipment in all study audiences was renewed by replacing projectors with

newer models. In 2019, computers were replaced with newer models in all study auditoriums, as well as 19 new computers for the FEEM computer room were purchased allowing to use the latest versions of software available in the study process.

Workplaces of teaching staff are equipped with modern PCs and laptops, as well as printing, copying and scanning devices.

Following the latest trends with regard to wider use of mobile or portable devices in the study process, the wireless network coverage is improved and extended. In 2020, there are plans to install additional wireless network access points by improving the coverage, and to increase the data transmission speed in the network.

Each RTU student and employee has access to the Office365 platform with an opportunity to use web versions of Word, PowerPoint, Excel, OneNote and Outlook, a personal cloud storage, as well as other opportunities provided by the platform free of charge.

RTU FEEM has created a “study stimulation” room in auditorium 119 or a “**Study Room**” for students of the faculty. The room is equipped in such a way to enable students to work in teams, there is a shared computer and a projector.

In academic year 2018/2019, an Open Learning Space was created on the basement floor at Kalnciema Street 6 in order to ensure more active use of stocks of the methodological room and to better familiarise students with the methodological materials prepared by teaching staff of the faculty.

In January 2018, a **FEEM Creative Lab** functioning in faculty premises at Kalnciema 6, room 417, was created for students, academic staff and employees to provide support in the study process, research and creative work, development of designs for new products and services and prototyping at the faculty. The lab provides students with different tools, a 3D printer, materials, workplaces allowing to transform own idea into a product prototype or create prototype templates or initial versions which can further be developed at the RTU Design Factory at Kipsala. The lab is supplemented with additional tools based on wishes of students. 3-4 teams (up to 5 people each) can work in the lab at the same time. The main aims of creation of the Creative Lab:

- to get involved in the study process to arouse interest in students in work in a lab, to support scientific activity, research and innovation;
- to provide students with initial product designing and prototyping opportunities and preparation for further work in the RTU Design Factory;
- establish and maintain close cooperation with the RTU Design Factory by introducing a uniform lab operation model;
- to support local, national and international research projects;
- to provide consultation and mentoring in the field of product and service design development and improvement, design process methodology, prototyping and testing;
- to cooperate with RTU organisational units, the RTU Design Factory, Latvian and foreign universities and scientific institutes to work together on different projects;
- to organise seminars, lectures and other educational or interdisciplinary events; to promote development of different forms of business;
- to cooperate with companies national and regional regulatory authorities and business incubators;
- to attract funds by performing research and study projects, as well as to provide consultations or technical provisions for the performance of works within RTU projects.

The RTU Design Factory has been ensuring the implementation of the study course “New Product Design and Development”, secures prototyping of business ideas of students thus fostering

cooperation between the university and businesses for four years. Along with the establishment of the RTU DF the academic staff of FEEM got involved in technology transfer and idea commercialisation processes at university scale.

An **Innovative Economic Research Centre** has been created within the RTU FEEM to ensure different research in the field of innovation, technology transfer, business, finances, etc. Scientific and other research is conducted by students and academic staff. The centre implements scientific research projects, for example, “SME coaching: 5-POINT training programme” (<https://www.rtu.lv/lv/ievf/zinatne-ievf/projekti-1/starptautiskie-projekti-1/erasmus-1>) (in Latvian) in 2014-2016. The centre conducts various research for the needs of the industry.

In order to increase the quality of scientific and research works and competitiveness of RTU students and researchers in the labour market, a **“Bloomberg” laboratory** was equipped at Kalnciema Street in auditorium 402 in January 2019. The “Bloomberg” laboratory provides students and researchers access to extensive real-time databases, research and analysis tools. The database is very extensive. It includes all the global financial data, data about companies, securities, transactions, marketing events, real estate and other taxes and much more. There are 12 special terminals at the laboratory, which are available to all RTU students and researchers. It was equipped by improving the RTU study environment within the European Union specific support objective 8.1.1 project “Development of infrastructure of the Riga Technical University to modernise STEM study programmes”. The general aim of the project is to increase the number of modernised STEM (Science, Technology, Engineering and Mathematics) study programmes, including medical and creative industries. By implementing it, RTU continues the establishment of the most state-of-the-art engineering study centre in the Baltic region.

The FEEM has created the **RTU Business Logistics Research and Training Centre** providing qualified practical assistance in the field of business logistics and problem solving (for example, product delivery time, delivery accuracy, stock requirements, optimisation of stock procurement, storage costs, storage and transportation of goods at local and international level, etc.) for companies, organisations and RTU graduates. One of the tasks of the centre is to train and upskill the specialists involved in logistics processes in accordance with the rules of certification of the European Logistics Association (ELA). Every year the RTU FEEM IBCI Business Logistics Research and Training Centre organises courses on management of logistics processes and organisation of forwarding services. The courses are intended for forwarding agents, employees of customs warehouses, employees and managers of logistics organisational units, as well as other interested persons. They were attended by 25 persons, who received an RTU Certificate about the mastered continuing education course.

A **Customs Control Laboratory** was opened at RTU FEEM in April 2019 to strengthen practical skills of students in customs control and to better prepare them for labour market requirements. The Customs Control Laboratory was created with support of the Customs Board of the State Revenue Service. The laboratory allows students to obtain and improve practical skills. The laboratory is equipped with different measuring instruments used by customs officers in daily work when inspecting vehicles and persons, for example, density and radiation measurement devices, metal detectors, endoscopes, drug tests and so on allowing to check that no counterfeit goods are hidden in the vehicle. Special hideouts have been created in hollow planks, car doors, seats, fuel tanks and tyres to train students to find counterfeit goods during practical classes. Therefore, the laboratory imitates the most common hideouts for transportation of unauthorised goods in Latvia. The laboratory also has equipment for demonstration of different customs control training films and videos.

Academic staff and students has access to different up-to-date versions of software for the needs of

the study process and research: Aquad; Eviews; Visma Horizon; Microsoft Navision; Microsoft Power BI; Microsoft Project; Microsoft Visio; Microsoft Office; Minitab; IBM SPSS Statistics; Sigma Estimate; Tāmētājs; ArcGIS; NVivo; MATLAB and other.

(in addition, see the report of each study programme)

2.3.3. 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 field 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 field, 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 possibilities for the subscription to the databases.

Library plays an important role in the provision of methodological guides and educational resources to students. [RTU Scientific Library](#) (SL) is a library of national importance, which has acquired its status in the process of library accreditation. The SL provides the necessary information to ensure RTU study process and research activities, as well as provides library, bibliographic and information services to RTU students, academic and general staff. The Library holds 1.3 million printed documents and e-resources in RTU industry specific databases. The Library stock is located at the Central Library, the Study Material Subscription, the Chemistry Branch, the Transport Branch and Study and Research Centres in Daugavpils, Liepāja, Cēsis and Ventspils.

In 2016, significant investments were made in the development of the SL infrastructure by building additional premises (2240 m²). The total area of the SL premises is 6393 m², of which 3417 m² are reader service premises. There are 713 working places for SL users. The SL has four group rooms and six individual booths, a rare book reading room and a conference room. The SL is accessible for users with disabilities.

In order to improve the SL activities and to meet the information needs of academic and research staff, the Library Council has been established, which decides on replenishing the library collection with printed publications and subscribing to the necessary databases. The Library Council has approved the Compilation Policy of RTU SL Collection, which sets the basic principles of the collection development in accordance with the areas of RTU academic and research activities.

After the SL receives its funding from RTU, it calculates funding for the information resources for each study programme. The collection is replenished taking into account the recommendations of the heads of the study programme and researchers, in compliance with the allocated funding. By contacting the SL Collection Development Department regarding replenishment of collection, the desired editions can be ordered at the Library website by filling out an order form, an application form, contacting by phone 67089353, or visiting the Library at 5-105 Paula Valdena Street. The SL offers a guide, which includes websites of various Latvian and foreign publishing houses and bookstores for searching publications and e-resources.

Database subscription agreements are concluded both directly with the supplier and through the state agency Cultural Information Systems Centre, which is the Latvian national representative for

the international non-profit organization Electronic Information for Libraries (EIFL) (<https://www.eifl.net/>). The EIFL Licensing Programme offers libraries of state importance to subscribe to internationally recognized databases at a significantly reduced subscription fee that is not offered to individual subscribers, thus saving the financial resources of libraries.

RTU keeps up with modern current trends in students' learning habits, therefore many teaching staff use electronic textbooks in both Latvian and foreign languages, so that literature is freely available to students at any time, it is regularly updated with the latest information in a particular study course.

The list of databases subscribed by the Scientific Library is available at <https://www.rtu.lv/en/studies/scientific-library/search-and-find/electronic-resources-1>. Subscription to such databases as ScienceDirect, SCOPUS (Elsevier) and the Web of Science is funded by the Ministry of Education and Science of the Republic of Latvia. The following databases are relevant for the study programs of the study direction "Transport Services":

- ProQuest Ebook Central contains approximately 51,700 full-text ebooks published by the world's leading scientific publishing houses – Elsevier, Wiley, Springer, Oxford Press, Emerald etc. in various fields of science, as well as in economics, finance, and
- ScienceDirect – a database of scientific, technical and medical articles by Elsevier. Over 2,500 full-text journals (Freedom Collection) have been made available since 2002 and 354 full-text books in various fields of science, as well as in economics, finance, business, management and accounting.
- Academic Search Complete EBSCOhost – 8,800 full-text periodicals in various fields of science, as well as in economics, finance, business, management and accounting.
- Applied Science & Technology Source EBSCOhost – 1,200 full-text periodicals (applied mathematics, computer science, artificial intelligence, robotics, mechanical engineering, aeronautics, power engineering, chemical technology, and textile industry).
- Business Source Ultimate EBSCOhost – 5,100 full-text periodicals (management information systems, management, production management, marketing, economics, finance, accounting, international trade, and insurance).
- EBSCOhost eBook Academic Collection contains approximately 180,000 full-text ebooks in English, published by the world's leading scientific publishing houses in various fields of science, including economics, finance, business, management, and accounting.
- Wiley Online Library has more than 1,360 full-text journals (Full Collection) since 1997 in various fields of science, as well as in economics, finance, business, management, and accounting.
- SpringerLink has approximately 13,100 books published by Springer in the period of 2014–2018 in various fields of science, as well as in business
- The International Monetary Fund (IMF) eLibrary offers access to important global economic information – IMF resources, periodicals, books, statistical databases and studies on macroeconomics, financial crisis, globalization, trade, international relations, politics, etc.
- LETA fields: Transport and Transportation.
- Latvian Standards Database. Latvian national standards (LVS); European Standards (EN) adapted as Latvian standards; International Standards (ISO) adapted as Latvian standards; annexes to standards: amendments and adjustments. The thematic layout corresponds to ICS (International Classification for Standards). One can search for standards by number, read them. The database of Latvian standards is available in the internet room of the Central Library.
- The information system of regulatory enactments (NAIS) is available only in the internet room of the Central Library.

- The iFinances e-journal, in which accountants, CEOs or financial directors can find all the information they need, keep track of changes in tax deadlines and other news.

The A-to-Z software provides all users of the library with a simple and comprehensive list of online journals available in the library. It was created based on recommendations of teaching staff and students. Users can quickly access e-journals of interest and their full texts. Information about databases is available on all computers registered in the Central Library, branch libraries, RTU network and in the RTU e-study environment ORTUS (Resources).

Database use at RTU Scientific Library has been growing since 2016. For instance, in 2023, lending of digital resources achieved 709,585. Library stock in 2023 was 11,792,19 units.

New premises of the library allow offering an extended range of services for the users. Since the opening of the new premises the number of the library visitors has grown from 103,825 to 885,162. The central library of the SL is open for users Monday through Saturday. Information on the opening hours and the contacts is available [here](#). The 24-hour reading room is available. During the summer, the Central Library is open every weekday with reduced opening hours.

The SL information sources are open access resources. Books and periodicals relevant for the study direction “Management and Administration, Real Estate Management” are located in the main building of the Scientific Library (5 Paula Valdena Street) in compliance with UDC indexes. The last copy of the oldest editions that comply with RTU profile is stored in the library repository. They are always available to users.

The librarian on duty helps visitors find their way around the collection. Bibliographers (information specialists) provide more detailed information and advice. The library has a [branch librarian service](#).

The SL resource search is supported by the Primo Discovery [search tool](#). It allows searching the library catalogue, the subscribed databases, as well as the databases created by the RTU Scientific Library in one interface. Searching for information in the [electronic joint catalogue](#), it is possible to simultaneously obtain information on the resources available in 13 Latvian libraries.

Both the electronic catalogue and the RTU portal ORTUS allow remote reservation of library resources, as well as remote access to the databases. Since the introduction of RFID technology, users can use five self-service book-dispensing machines and check out books from the pick-up machines around the clock. Use term of the books can be extended remotely.

The SL provides students, academic personnel and other stakeholders with various levels of individual consultation and [group training in information literacy](#).

Publications not available in the SL are delivered via an interlibrary loan or an international loan. Internet access is available throughout the library. The library has copying, scanning, printing, binding services and a self-service dining room.

Academic staff of FEEM also have access to Firmas.lv and Amadeus databases, which can be used for the purpose of studies and research. In addition, as a result of international cooperation of FEEM Harvard Business Publishing provides teaching staff access to electronic resources.

Each institute of the faculty has an additional methodological room with access to teaching and methodological materials in the specific field and the Bachelor and Master theses defended in previous years. As part of the study direction, regular and planned work is carried out on the improvement of methodical and informative provision.

Special attention is drawn to the development of research work competence of students and therefore the Methodological Instructions for Preparation of Study and Graduation Papers were developed and approved at a meeting of the FEEM Methodological Committee in 2016. They are

intended for students, academic staff, supervisors and reviewers of graduation papers, and members of the graduation examination committee of the RTU Faculty of Engineering Economics and Management. The methodological instructions for preparation of papers have been drafted as guidelines for preparation of all types of study papers (including reports, internship reports, etc.) and graduation papers (qualification papers, diploma papers, Bachelor and Master theses): https://www.rtu.lv/writable/public_files/RTU_metodiskie_noradijumi_ievf_2016.pdf

A visual guide in a video format on the use of the methodological instructions for preparation of study and graduation papers has been prepared (only in Latvian): <https://www.rtu.lv/lv/ievf/studijas-ievf/studiju-process/metodiskie-noradijumi>

Methodological instructions in English were prepared for the study field n in 2017 in cooperation with the International Cooperation and Foreign Students Department, the Faculty of E-Learning Technologies and Humanities (FETH) (departments that existed at that time). Similarly to the material in Latvian, they include essential information on the methodology and a broad overview of formatting requirements.

Information about the resources available in RTU Scientific library is available in annex 2.3.1 (see annex 2.3.1. Basic information about library provision for students).

In addition to the aforementioned, methodological materials are created also for each study programme (*in addition, see the description of each study programme in Section III of the report*)

2.3.4. Provide a description and assessment of information and communication technology solutions used in the study process (e.g., MOODLE). If the study programmes within the study field are implemented in distance learning, the tools specially adapted for this form of study must also be indicated.

Owing to a high level of digitalization, the available infrastructure and material and technical facilities for the implementation of the study field and corresponding study programmes provide an opportunity to increase the University's competitiveness, improve operational quality and efficiency, as well as to make information available by integrating IT solutions into administrative, academic and research processes of the University and providing administrative and academic staff with modern, reliable, secure and unified IT infrastructure and quality IT services.

The Information Technology Department works in three areas:

1. Creation, development and maintenance of an integrated information system of RTU providing support for administrative, academic and research work of RTU;
2. Provision of high-quality and uninterrupted voice and data communication services throughout the territory under the control of RTU, as well as maintenance of RTU data centres and key network resources;
3. IT service support, incl. providing information on new IT solutions, giving necessary consultation and organizing IT training.

To ensure easy and efficient identification of IT users, an IT user identity management system has been introduced; as a result, each IT user has a unique electronic identity that is valid in all information systems. In addition to the aforementioned, a user session management system is ensured in IT systems, which means that there is no need for IT users to re-authenticate when logging in to RTU information systems. It gives the experience of using a unified integrated

information system without having to memorize different identification data and re-enter them, implementing different IT application scenarios.

All IT users are provided access to the centralized portal ORTUS (<https://ortus.rtu.lv> - screenshots of the interface are attached in the appendix "Screenshots of RTU IT systems", which functions as a single digital gateway, combining information from all RTU information system components and providing users with an easy-to-use way of accessing the directory of all IT services in one place.

The Centralized Study Management System is used for efficient administration of the study process, which ensures digital provision of the study life cycle, incl. Electronic Register of Study Programmes (<https://stud.rtu.lv/rtu/vaaApp/sprpub>), drawing up learning agreements and enrolment of students in study programmes, Register of Study Courses (<https://stud.rtu.lv/rtu/discpub/list?english=true>), designing student's individual study plans, drawing up orders, implementing study courses and study process, registering grades, recognizing study courses, awarding qualifications, administering payments, hostel information, gathering information to issue diploma supplements, etc. This system is one of the main cornerstones in the administration of RTU study process.

To ensure effective implementation of the study process, Moodle e-learning system is used, where all relevant information is compiled in an automated way (study courses, users, groups, access rights, etc.). This system ensures student-instructor communication. The academic staff members place various electronic materials, assessment tests, homework assignments, information on a particular study course, etc. in the system. Students can also view their financial information on the ORTUS portal, as well as make request for documents (references, transcripts of records, copies of a learning agreement, etc.). For online distance learning RTU academic staff has options to use *Zoom* or *Microsoft Teams* video conferencing platforms.

Since 2007, more than 130,000 unique study course sites have been generated in the e-learning environment of RTU. Students can access electronic learning resources anytime and anywhere.

Digitization of classrooms and schedules has been carried out to ensure efficient premises management and study planning (<https://telpas.rtu.lv> (only in Latvian); <https://nodarbibas.rtu.lv/?lang=en>). Each RTU student and academic staff member can access their schedule, which provides information on the venue, time, instructor, room, title and type of lecture. In addition, for user's convenience purposes, the system greatly facilitates lecture planning and scheduling, as well as optimizes the use and efficiency of premises.

Electronic Staff Management and Record-keeping Systems, which cover the circulation of record-keeping and personnel documents at RTU (<https://docs.rtu.lv/> (only in Latvian), are also used to ensure the efficient administrative work. Electronic document coordination and document e-signing functionality have been introduced, thus reducing print-based document circulation and significantly increasing document circulation speed. Since autumn semester 2019, students have been provided with electronically signed learning agreements. Since 2016, RTU graduates have been receiving electronically signed transcripts of records.

In terms of quality assurance, a digital student survey system is used, with the help of which the quality control of study courses and study programmes is implemented each semester. Based on the results of quality control, regular measures are taken to improve study programmes and the study process, in general.

For the additional convenience of RTU students, academic and general staff members, RTU leases Microsoft Windows and Microsoft Office software, which provides all IT users with access to the latest Microsoft software. RTU students can use the licensed Windows operating system and the Microsoft Office productivity suite provided by RTU for study needs. All IT users have access to

Microsoft Office 365 cloud computing platform with one terabyte of storage space available to each user and access to a variety of additional collaboration and productivity tools (Microsoft Teams, SharePoint Online, Forms, OneNote, OneDrive, Outlook, etc.). RTU students, academic and general staff have access to the University's email system.

To support research activities, RTU has developed the Centralized Research Support System, which records all information on publications, patents, commercialization applications, Doctoral Theses, RTU scientific journals, research staff, etc. The system provides access to information according to Open Access principle. RTU students and academic staff also have centralized access to research software.

RTU has high-speed fibre optic Internet and extensive wireless network infrastructure with over 400 access points, including the international *Eduroam* service. In addition, desk phones and mobile communications are provided for fast and easy communication.

To ensure a stable and secure operation of the information technology infrastructure, continuous monitoring of the IT infrastructure and systems is performed, resulting in proactive incident control. Data backup is also ensured.

The Information Systems Security Policy has been developed and implemented with the primary goal of ensuring the secure use of RTU information systems by establishing and maintaining a sufficient set of measures to reduce or prevent potential or resulting harm. Implementation of the Information Systems Security Policy envisages security checks, data transmission network monitoring, as well as preventive measures. Regular IT security and personal data protection training is organized for IT users. Automated security incident management and risk management have been implemented. Statistics demonstrate that the number of IT security incidents dropped significantly over the last five years.

The IT User Support Centre provides IT user support, by applying a one-stop approach to process applications based on ITIL guidelines. Since 2007, the IT User Support Centre has processed and resolved more than 160,000 IT user applications.

2.3.5. 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 implementation of RTU personnel policy is stipulated in the Human Resources Development Plan, which focuses on three main goals within the professional development of the academic staff: renewal of the academic staff, by promoting academic work of Doctoral students, improvement of the professional competence of the existing academic staff and attraction of foreign academic staff. The action plan sets out, for each goal, the activities and sub-activities to be carried out, defines the results to be achieved, the responsible organizational units and the implementation schedule.

Elections of RTU academic staff are held in accordance with the requirements of the Law on Higher Education Institutions and Cabinet regulations based on the recommendations of the Council of Higher Education, in accordance with the Constitution of RTU and the regulations approved by the Senate "On the Procedure of Electing Professors and Associate Professors" and "On the Procedure Of Electing Assistant Professors, Lecturers and Assistants" (publicly available at <https://www.rtu.lv/lv/universitate/vakances-rtu/personalatlates-dokumenti> (in Latvian); the English translation is in the file of Annex 42-43 of the List of Internal regulations), as well as in compliance

with other internal laws and regulations.

At the proposal of organizational units, the faculty council or the institute board shall consider and approve a reasoned proposal made by the head of a respective organizational unit for announcement of the competition for vacant academic positions, which expire in the respective academic year. The faculty council or the institute board shall submit the proposal under consideration to the RTU Personnel Department together with the job description and qualification requirements, including the workload (full-time or part-time).

Regarding academic positions for professors and associate professors, where the term of election expires in the respective academic year, periodic evaluation of scientific and pedagogical qualifications is performed in accordance with the Procedure for Election of a Candidate for the Position of Professor or Associate Professor and the Procedure for Assessing the Qualification of an Existing Professor or Associate Professor approved by the RTU Senate meeting on 30 May 2022 (published at https://www.rtu.lv/writable/public_files/RTU_par_profesoru_un_asocieto_profesoru_periodisko_novertesanu_apstiprinasanu.pdf (in Latvian); the English translation is in the file of Annex 42 of the List of Internal regulations).

The Personnel Department informs the head of the structural unit of the professor or associate professor about the need to organize the evaluation of the professor or associate professor. The evaluation is performed by the Board of professors of the field in accordance with the Law on Higher Education Institutions, the Regulations of Councils of RTU professors and the Regulations on periodic evaluation of professors and associate professors approved by the RTU Senate. After the evaluation, the Council of the professors of the field submits an opinion on the result of the evaluation to the Rector and the Personnel Department. Taking into account the evaluation of the Board and the procedures and criteria set by the higher education institution, the employment contract with the associate professor or professor may be extended for a definite or indefinite term. If, as a result of the evaluation, the scientific and pedagogical qualification of a professor or associate professor meets the evaluation criteria set by the higher education institution, the employment relationship is continued. If, as a result of the evaluation, the qualification of a professor or associate professor does not meet the evaluation criteria set by the higher education institution:

- the relevant employment contract of the professor or associate professor is terminated;
- the department may decide to announce a new vacancy.

The Personnel Department announces a competition for academic staff positions at RTU website, the [Euraxess](#) vacancy portal and at least in one mass medium distributed throughout Latvia. The applicant shall personally submit or send by email the signed application documents no later than one month after the date of competition announcement.

The employment relationship shall be established by means of a written employment agreement between the Employer and the Employee at least two working days before the commencement of employment. The employment agreement shall be drawn up in duplicate. One copy shall be kept by the Personnel Department of the Department of Personnel and Working Environment (in accordance with RTU File Nomenclature) and the other shall be issued to the Employee. Prior to entering into the employment agreement, the applicant is acquainted with RTU Rules of Procedure.

Employee's duties are defined in accordance with the Classification of Occupations of the Republic of Latvia and RTU Position Catalogue, Unified Work Remuneration Procedure at RTU (see the file of Annex 44 of the List of Internal regulations), RTU Rules of Procedure and the requirements laid down in the job description, which is an integral part of the employment agreement. Job description

shall be presented to and signed by the Employee. Job description shall be drawn up in duplicate; one copy shall be issued to the Employee and the other shall be kept according to RTU Case Nomenclature.

Before taking up the employment, the Applicant shall present an identity document – passport or identity card, the Foreigner shall additionally present a visa or residence permit, as well as a work permit if such a permit is required in accordance with regulatory enactments.

Visiting academic staff shall be employed in compliance with:

- Law on Higher Education Institutions (<https://likumi.lv/doc.php?id=37967> (in Latvian));
- Labour Law (<https://likumi.lv/ta/id/26019-darba-likums> (in Latvian));
- Immigration Law (<https://likumi.lv/ta/id/68522-imigracijas-likums> (in Latvian));
- Cabinet Regulations No. 568 "Regulations Regarding the Procedure by which a Research Institution Concludes and Terminates Employment Agreements with a Foreign Researcher" as of 21 July 2008 (<https://likumi.lv/doc.php?id=178749> (in Latvian));
- Cabinet Regulations No. 225 "Regulations Regarding the Amount of Financial Means Necessary for a Foreigner and the Determination of the Existence of Financial Means" as of 25 April 2017 (<https://likumi.lv/doc.php?id=290808> (in Latvian));
- Cabinet Regulations No. 25 "Implementing Regulations for the First, Second and Third Project Applications Selection Round of Specific Objective 8.2.2 "To Strengthen Academic Staff of Higher Education Institutions in the Areas of Strategic Specialization" of the Operational Programme "Growth and Employment" as of 9 January 2018 (<https://likumi.lv/doc.php?id=296513> (in Latvian));
- RTU internal regulations "Procedure of Involvement and Employment of Visiting Academic Personnel at RTU" as of 26 November 2018 (see the file of Annex 25 of the List of Internal regulations);
- RTU internal regulations "Unified Work Remuneration Procedure at Riga Technical University" as of 27 April 2020 (amendments on 28 September 2020, 21 December 2020, 25 January 2021, 31 January 2022) (see the file of Annex 44 of the List of Internal regulations).

According to the results of the applicant selection competition, the employment agreement with the visiting academic staff is signed within a month, specifying an hourly rate. Job description is also provided, which includes specific job responsibilities (delivering lectures, designing study courses, lecture cycles, supervising study papers, etc.). The workload of the visiting academic staff member may include the provision of face-to-face work (delivering lectures, providing tutorials, conducting seminars, supervising graduation papers, etc.) and remote work if it complements the face-to-face work (video lectures, tutorials, supervision of graduation papers). If the work is to be carried out remotely, face-to-face visits (e.g., tutorials) should be provided at the organizational unit.

The visiting academic staff member shall enter into the employment agreement in compliance with the requirements of the Latvian regulatory enactments. During the term of the employment agreement, all assignable copyrights for the work created by the visiting academic staff member, including curricula, materials, and any other teaching aids developed by the visiting academic staff member, shall pass to the Employer. The visiting academic staff member, upon termination of the employment agreement, shall be obliged to transfer the work created within the framework of the employment agreement, including study materials, to RTU. Before terminating the employment agreement, the visiting academic staff member shall submit to the head of a respective organizational unit the reports and other documents stipulated in the employment agreement.

In addition to RTU centralized activities, the FEEM developed a video instruction for new academic staff members in 2018. It addresses the most important issues to be aware of when starting a career at RTU. It includes several sections with documents and links to materials, such as the Law

on Higher Education Institutions, RTU Study Regulations, RTU Regulation on the Assessment of Learning Outcomes, RTU Internal Regulations and others, as well as demonstrates the most important sections of RTU e-learning environment ORTUS, introduces to the study process and academic work planning.

2.3.6. 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 qualifications (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.

At the end of 2018, the Centre for Academic Excellence (teaching and learning centre) was established at RTU in order to support RTU academic staff (in the areas of pedagogical, intercultural communication and self-development). The main tasks of the Centre for Academic Excellence are as follows:

- to organize various educational events, such as seminars, thematic series of events, guest lectures, conferences, discussions with the participation of the Latvian and foreign specialists;
- to coordinate experience exchange activities within faculties and other organizational units;
- to inform (including posting to ORTUS) the academic staff about the latest teaching and learning trends that are appropriate for RTU;
- to provide guidance to academic staff on the use of teaching and learning methods, as well as on the assessment of students' knowledge, skills and competence;
- to inform students about learning opportunities, such as platforms, systems, applications, effective methods and forms of learning that can be used both in the study process and individually.

Each semester, a core set of activities is offered taking into account the professional competence and needs of the academic staff, which are identified through a survey, in which the lecturers indicate the most important topics and areas in which they want to improve themselves. Student surveys data and information from student self-governments are also evaluated, to gain some topics which should be improved for lecturers from students' point of view. At the same time, proactive actions are being taken to assess the potential needs of academic staff.

The Centre for Academic Excellence organizes two methodological conferences a year. The conference organized in the autumn semester is dedicated to the modern content of the study courses, while the conference held in spring focuses on modern teaching and learning methods. Materials of all events are available on ORTUS within the study course "Materials of the Centre for Academic Excellence".

After each professional development event, participants complete assessment questionnaires, which enable organizers to improve the range of offered events. In order to promote the development of competences of the academic staff, the student surveys are analysed each semester, as well as discussions with the representatives of faculties, student self-governments and the instructors themselves take place.

Lecturers have the opportunity to improve their English language skills by applying to the courses offered by the RTU Institute of Applied Linguistics or by the RTU Riga Business School, which are organized thanks to SOO 8.2.2 project funding.

With the emergency situation and lecturing switching to the remote mode, the CAE on the ORTUS portal prepared a site “Support in the provision of remote courses”. The site consists of six sections: General Information, Technical Assistance, Pedagogical Assistance, Experience Stories, Distance Exams and Mutual Support. Each section is regularly updated with relevant resources. Lecturers appreciate such a resource, and also suggest what other materials should be included.

Since March 2020, almost 80 webinars have taken place (both organized by CAE and international partners, in which RTU lecturers were invited to participate). Webinars organized by the CAE were recorded, with more than 400 participants participating online, and the recordings were viewed more than 650 times.

RTU IT User Support Centre regularly organizes training on IT systems and the latest technology tools for RTU academic and general staff. Training is organized on the following topics:

- e-learning environment (Moodle) for beginners;
- e-learning environment (Moodle) for advanced users;
- MS Outlook email and calendar;
- Office365 Teams and OneDrive;
- searching in subscribed databases;
- record-keeping systems;
- basic IT security issues working with RTU information systems.

In May each year, the Student Parliament of RTU organizes the contest “Annual Award of the Student Parliament of Riga Technical University”. During the event, RTU staff and members chosen by the students are awarded the honorary titles “Instructor of the Year” and “Student Support of the Year”.

To recognize and appreciate RTU academic staff, since 2018, RTU has been organizing contests “Annual Academic Excellence Awards” and “Young Academic Staff Member of the Year” in cooperation with the foundation “Riga Technical University Development Fund” and Industry Service Partner Ltd. The aim of these events is not only to award the best academic staff members, but also to promote creativity in the academic environment.

Starting from academic year 2017/2018, RTU FEEM Council approves **the FEEM Didactics and Professional Development Plan** for each semester. In total, many different events have been planned and implemented, including academic conferences, international conferences, as well as professional development seminars for FEEM academic and administrative staff. Taking into account the theme of the organized event and the intended target audience, on average almost 80% of the academic and administrative staff participated in the events. **Examples** of professional development events for the FEEM academic staff organized during the reporting period:

- The FEEM Science Think Tank took place on 10 November 2022. The FEEM Science Think Tank - experience stories on participation in projects, networking and joint publications aimed at the development of academic staff and improvement of the academic process.
- On 18 May 2022, the FEEM academic **conference “Assessment Process in Higher Education Institutions - Searching for a Common Approach in an Ever-Changing Environment”** was held. The aim of the conference was to share experience on the mutual integration of teaching methodological work and study assessment in the study process with the aim of developing the knowledge and skills of academic staff in the assessment of learning outcomes in ever-changing conditions. Main tasks: to provide an interactive

discussion on problems, methods and approaches to the assessment of learning outcomes for the development of students' competences; to discuss ways and perspectives of digitization of education and its impact on the assessment process; to ensure cooperation among academic staff members and dissemination of good practices for teaching and assessment to contribute to the development of students' competences. More information at: <https://www.rtu.lv/lv/ievf/zinatne-ievf/konferences-3/ievf-akademiska-konference-1/ievf-akademiska-konference-2022> (in Latvian).

- On 13 May 2021, RTU Faculty of Engineering Economics and Management held an academic conference **“Think Differently”**. The aim of the conference was to share experience on the integration of methodological and scientific work in the study process with the aim to develop the skills and improve the competences of academic staff in various fields. The main tasks were: to provide an interactive discussion on contemporary educational problems, methods and approaches to the development of students' competences; to discuss the ways and perspectives of digitalization of education and its impact on the development of competences. More information at: <https://www.rtu.lv/lv/ievf/zinatne-ievf/konferences-3/ievf-akademiska-konference-1/ievf-akademiska-konference-2021> (in Latvian)
- In 2020, a two-month staff development course “Competence-based Studies in Higher Education: Challenges and Solutions” (4 CP, 160 academic hours, including 60 contact hours) was held.
- On 12 April 2019, the FEEM academic conference on **“Soft Skill-based Education in Schools and its Impact on Higher Education”** (only in Latvian) took place. The aim of the conference was to share experience on the integration of methodological and scientific work in the study process with the aim of better development of students' competences. Within the conference, teacher of Sigulda Primary School No 1, senior expert of the Project “Skola2030” in the field of technology education delivered the report “Content and Approach of Technology Education”, teacher of economics at Agenskalns State Gymnasium delivered the presentation “Education for Modern Literacy: Accents of Curriculum and Approach. Expected Learning Outcomes in Economics/Basics of Business” and the principal of Ogre Secondary School No 1 delivered the presentation “New Curriculum and Study Process in General Secondary Education”. The conference was attended by 73 participants, most of whom were academic staff of this study field. The conference proceedings are available in the digital funds of the National Library of Latvia: <http://dom.lndb.lv/data/obj/752154.html>
- On 1 March 2019, the FEEM seminar **“Corporate Culture - How to Reduce Internal Friction and Increase External Opportunities?”** took place. During the seminar, the FEEM Dean discussed corporate values, beliefs, norms and tradition systems. With the aim of introducing modern methods for delivering study courses on new product development and entrepreneurship at RTU, the FEEM Dean and Professor Elīna Gaile-Sarkane organized a pedagogical development course for RTU academic staff.
- On 27 April 2018, the FEEM academic conference **“Integrating Teaching Methodology and Research in the Study Process”** was held. The plenary speakers of the conference: Professor Tatjana Volkova from the BA School of Business and Finance with the topic “Integration of Methodological and Scientific Work in the Study Process”; RTU Vice-Rector for Academic Affairs Professor Uldis Sukovskis – “Impact of Digitization on Quality Assurance in Higher Education”; Professor Tatjana Koķe from Riga Stradiņš University – “Contemporary Trends in Study Methodology and Lifelong Learning”. In total, 33 publications were submitted by the FEEM academic staff, 18 of which were submitted by academic staff of this study field and were compiled in an electronic publication collection ISBN: 978-9934-22-070-8.
- On 23 February 2018, the FEEM Dean held a seminar on **“Plagiarism, Copyright Infringement and Preventive Measures”**, where she provided information on the legal

aspect of plagiarism, its types and self-plagiarism. Representatives of RTU Press addressed publication ethics, including information on cases of violations of publication ethics and international practice in dealing with them, and conflict of interest and its declaration. The representative of RTU Study Department discussed plagiarism in study papers, ways of detecting plagiarism and computer-assisted plagiarism detection tools, as well as recommended actions in cases of plagiarism detection.

Academic staff involved in providing of the relevant programs, employed employees participate in seminars and guest lectures by 100%, while guest lecturers according to the topic of their field.

Examples of professional development seminars for **administrative staff** organized during the reporting period:

- Workshop “Organizing Examinations, Credit Tests and Other Tests Online – Tools and Experiences”;
- Workshop “Microsoft Office 365 Basics”. The workshop covered such issues as editing and saving documents in web browsers (Word Online, Excel Online, PowerPoint Online or OneNote Online), as well as the possibilities of sharing documents across workgroups for easy and fast document handling and data collection;
- Workshop on Microsoft Word, Microsoft Excel and Microsoft PowerPoint. The emphasis of the workshop was to encourage record keepers to make greater use of the possibilities offered by the software, thus minimizing the time spent on drawing up various documents and reports;
- Seminar for office administrators and managers together with the Deputy Head of the Study Department and the Head of Academic Administration Unit on topical issues in the organization of records, including procedures and deadlines; electronic application for state scholarships;
- Seminar for office administrators and managers on preparation of data for annual reports and statements. The seminar was held in the form of discussion (questions – answers) on the Regulation on Final Examinations at Riga Technical University.

Every January, the Annual Student Parliament Award is held. It is an annual event organized by RTU Student Parliament, where the Student Self-governments of RTU faculties, study and science centres and independent institutes, the Board of RTU Student Parliament, the most active students, administration and academic staff are awarded for the best projects, campaigns and collaborations during the year.

In addition to RTU activities, every year the FEEM Student Self-government organizes a festive event “**FEEM Pride**”, which is a student-initiated and independently organized project with the aim to express gratitude for the work of the academic staff in everyday life, promotion of student education and the growth of the faculty. On 2 September 2022, the event took place for the 19th time. In order to find out the winners of the “FEEM Pride 2022” awards, representatives of the FEEM Student Self-government created questionnaires in which students had the opportunity to nominate faculty members for certain nominations, as well as newly developed the methodology for processing the questionnaire data. Prizes were awarded in nominations submitted by undergraduate and postgraduate students. The nominees were identified through a survey of both undergraduate and postgraduate students at the end of academic year 2021/2022. A total of 31 academic and general staff members received diplomas, prizes and flowers at the award ceremony. Several of the nominated academic staff members (6) are employees within the study field. More information at: <https://www.rtu.lv/lv/ievf/ievf-par-mums/ievf-zinas/atvert/priekpilni-izskanejis-ievf-lepnums-2022> (in Latvian).

The FEEM academic staff members are highly evaluated not only within RTU. During the reporting period, several nationally significant awards and recognitions have been granted to the FEEM academic staff. In 2016, the Ministry of Education and Science of Latvia awarded Professor Inga Lapiņa and Professor, Vice-Rector of Academic Affairs Elīna Gaile-Sarkane **certificates of recognition** for their significant contribution to the implementation of higher education in Latvia and the creation of a unified academic environment in the field of business, economics, quality and process management in Latvia and worldwide.

2.3.7. Provide information on the number of the teaching staff members involved in the implementation of the relevant study programmes of the study field, as well as the analysis and assessment of the academic, administrative (if applicable) and research workload.

38 teaching staff members, of which 25 (65 %) are elected to an academic position at RTU, while 13 (35 %) are employed temporarily for the implementation of the study process, are involved in the implementation of the study direction “Transport Services”. Professional qualifications of the academic staff are fully compliant for the implementation of study programmes of the study direction and 22 (92%) of elected RTU academic staff members hold a doctoral degree, 2 (8%) hold a Master’s degree. Extensive information on all the teaching staff of the study direction is available in annexes: *Annex 9. General information about academic staff* and *Annex 10. Academic Staff CV*.

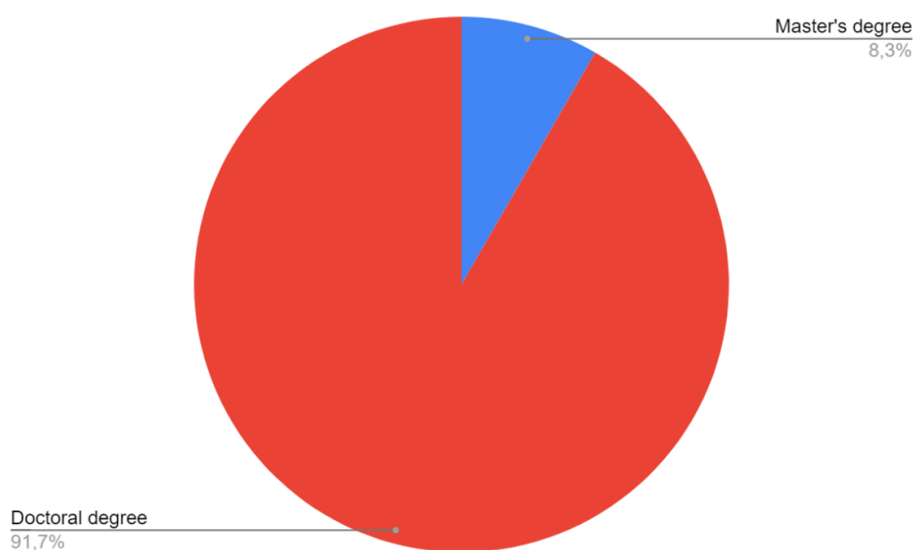


Figure 3. Qualification breakdown of elected academic staff

The analysis of elected academic staff of RTU leads to the conclusion that the doctoral degree has been obtained in the field of science corresponding to the course being taught. Most have the degree of a doctor of Economics (in management and economics), however, depending on the course being taught, there are academic staff representatives with a doctoral degree in engineering, pedagogy, social sciences, etc.

16 (67%) academic staff representatives have been elected as professors or associate professors. The study direction currently employs 6 professors and 10 associate professors, whose main responsibility is development and improvement of study courses, work with doctoral students and Master students, as well as they have higher workload in research work and work in scientific

projects. The academic staff, whose main priority is scientific research work, are 3 researchers and 2 lecturers do academic work as their primary work in the study direction. An assistant professor's position has a comparatively higher workload with 5 (21%) persons elected as assistant professors in professional study programmes (in accordance with Section 39 of the Law on Higher Education Institutions). Daily duties of staff overlap and all elected academic staff representatives have both academic and research workload, and in individual cases also administrative work. RTU does not strictly distinguish academic and research workload, its proportion is determined for each academic staff representative individually when planning the workload of the employee at the department, as well as taking into account their positions, involvement in the implementation of projects, professional competence and experience.

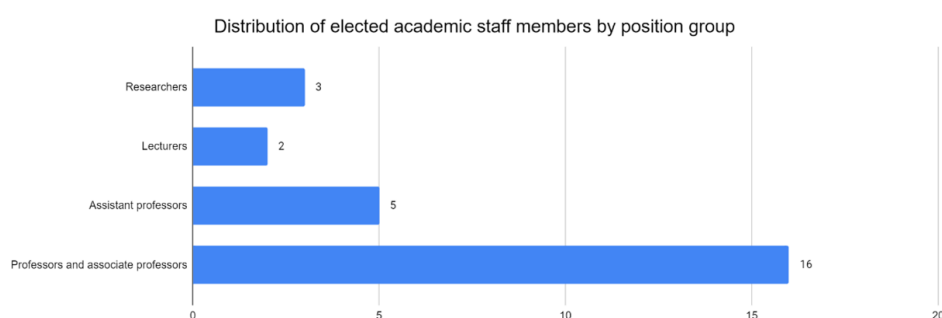


Figure 4. Distribution of elected academic staff members by position group (number)

It should be noted that some of the elected academic staff also have practical experience in their field. For example, PhD, Assistant Professor A.Čevērs is a former Head of the National Customs Board Customs Control Department, Dr.oec., associate professor J.Hudenko is chairwoman of the AS LatRailNet. Researcher A.Kotļars is sales director in Baltics in CEVA Logistics, assistant professor V.Ozoliņa is senior researcher at Bank of Latvia, but asoc.prof. J.Pundure is the former Deputy Director of the Internal Audit Division of the Ministry of Interior, etc.

The basic principle of integrated planning is used to **determine the remuneration and workload** for academic, administrative and research work, including project work, taking into account the planned workload for the current reporting period (semester or academic year) and making adjustments for work done in the previous period.

Academic work includes contact hours in classrooms and laboratories, consultations, supervising and reviewing study and graduation papers, work at examination committees, methodological work and activities that improve the quality of studies, etc.

Administrative (organizational) work includes managing study programs, work at boards, commissions, council, senate, managing organizational units, etc.

Research (scientific) work: attracting and managing projects, carrying out research tasks paid for by development funds or third-party funding (including contracts, contract work with legal entities (Latvia, abroad, etc.), developing publications, supervising and reviewing PhD Theses, working with PhD candidates, mentoring.

In most cases, it is not possible to strictly separate and define academic and research workloads, as there are overlaps in day-to-day staff responsibilities and all elected academic staff have both academic and research workloads, and in some cases administrative work. At RTU, there is no specific separation of academic and research workload, which is determined proportionally for each member of the academic staff on an individual basis, by planning the staff member's workload at the department, as well as taking into account their position, involvement in project implementation, professional competences and experience.

Each year, to ensure high study quality, study courses are reviewed and improved by developing new pedagogical strategies and introducing new teaching and learning methods within the course. This means that new academic staff members are attracted on a temporary basis to provide quality teaching and quality assurance to students (see Fig. 3).

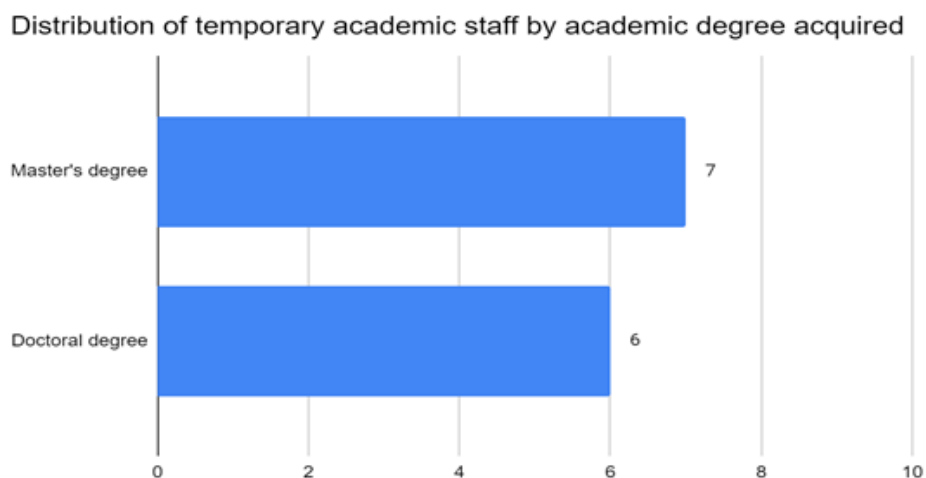


Figure 5. Distribution of temporary academic staff by academic degree (number).

Academic staff from other organizational units, faculties and higher education institutions are involved in the implementation of the study process. It is important to note that in order to promote students' practical knowledge-based sectoral competence, high-level professionals and experts are also engaged as guest lecturers in study programs, thus providing quality implementation of study courses from the perspective of practical experience. Attracting such guest lecturers contributes to the full-fledged teaching of study courses. At present, 13 temporary academic staff members have been recruited – 6 of them with PhD degrees and 7 with Master's degrees.

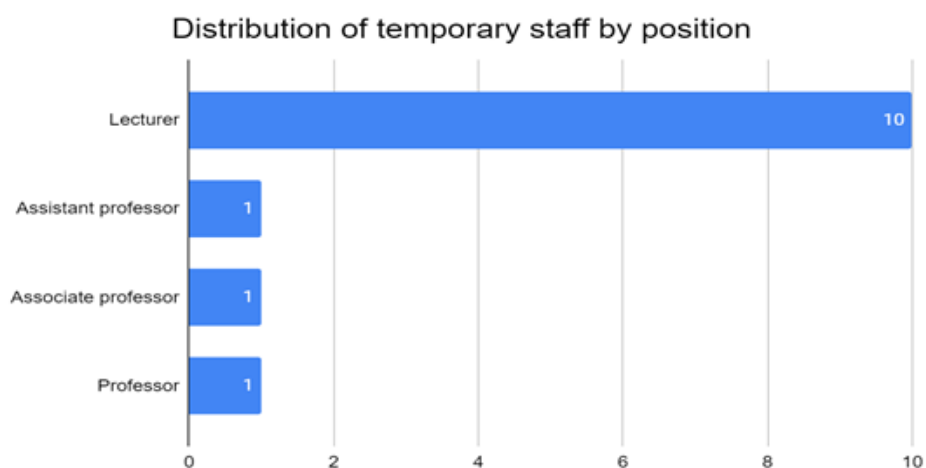


Figure 6. Distribution of temporary staff by position (number).

10 (76%) of all temporary academic staff have been employed as Visiting Lecturers, 2 (15%) – as Visiting Professors or Associate Visiting Professors, 1 (9%) – as Visiting Assistant Professors.

2.3.8. 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.).

RTU Career Support and Services Department provides students with a wide range of career and psychological support services.

Career development support involves:

For prospective students:

- consultation on study programme selection;
- consultation on study selection and skills profiling;
- attendance an annual Career Day;
- career choice seminars within RTU Open Days and upon request.

For current students:

- regular seminars and individual consultations on the development of career management skills, writing CVs and cover letters, job interview process;
- seminars on the development of entrepreneurial skills;
- project "RTU Golden Fund" to honour the best graduates and to promote new opportunities in the labour market;
- student summer camps for the development of career management and social skills and competences;
- online resource <https://ekarjera.rtu.lv/> (in Latvian);
- an annual career day aimed at informing students majoring in engineering, natural and social sciences about the best and leading companies in the respective fields and bringing them closer to potential partner companies for undertaking internship and employers.

Psychological support involves:

- individual consultations and support in case of difficulties with studies (time planning, lack of motivation, social anxiety, adaptation difficulties) and individual psychologist consultations on personal issues and difficulties (including crisis intervention).

Seminars and workshops on the following topics:

- adaptation events for first-year students - informative classes within the study course "Introduction to Study Field", seminars on the development of learning and communication skills;
- stress management methods;
- time planning methods; o self-motivation;
- emotion management and development of emotional intelligence;
- public speaking skills.

Support is differentiated by the target groups (<https://www.rtu.lv/en/studentsservice/career-centre/psychological-support>):

- prospective students (secondary school pupils, vocational school graduates, other prospective students): consultations concerning the studies are available, including skills diagnostics.
- first-year students: informative classes within the framework of the study course "Introduction to Study Field"; seminars on the development of learning skills; information letters on career and psychologist support opportunities; individual career and psychologist

consultations; and other activities in cooperation with businesses and non-governmental organizations.

- all RTU students: individual career and psychologist consultations, seminars and classes, guest lectures, RTU Career Day.
- foreign students (Erasmus+ mobility and full-time): individual and career support consultations are available in English; wherever possible, seminars and classes are conducted in English, such as seminars on writing CVs and cover letters, time management.
- students with special needs: psychological and career support consultations are provided upon request; physical access to the room; opportunity to come with one's mentor or interpreter.
- graduates: career support consultations are provided if necessary; consultations on writing CVs and cover letters, job interview process, career opportunities.
- staff: consultations on work and study related issues are provided to RTU academic and general staff members, if necessary.

As a result of pandemic, the offer has become even more accessible, as counselling and also career classes can be offered remotely.

In 2014, the Student Services Centre was opened in Ķīpsala campus. It provides day-to-day support under the supervision of the Career Support and Services Department:

- provides answers to various questions that students may have;
- provides printing, copying and binding services;
- issues identification cards;
- draws up references and transcripts, if necessary.

Further information is available at: <https://www.rtu.lv/en/studentservice/student-service>

In 2019, work was started on strengthening support for students with disabilities and in 2020 guidelines were issued with recommendations for effective communication and improvement of the study environment for people with disabilities and special needs: <https://www.rtu.lv/lv/studentuserviss/par-mums-ssd/noderigi-ssc/noderigi-materiali-1/ka-komunicet-un-nodrosinat-piemerotu-studiju-vidi-personam-ar-invaliditati-un-specialam-vajadzibam> (in Latvian).

For students, various types of support and counselling are also provided by the RTU Student Parliament, whose structure includes all faculty Student Councils and the International Students Council (ISC), which also represents the rights and interests of foreign students. Every RTU student in all level study programs have the right to get involved in Student Parliament, as well as faculty Student Council's and ISC, both extramural and intramural, as well as full-time and part-time students. Student Parliament and faculty Student Council's organise study evenings where students can help each other learn different topics together; promote involvement in science and student clubs in order to develop different practical knowledge in the study field; organize various academic-type events, such as panel discussions and guest lectures, excursions with collaborators from different sectors, providing students with the opportunity to explore different future potential jobs and to further develop understanding between acquired knowledge in lectures and in the specific work environment.

Further information available at: <https://www.rtu.lv/en/rtusp>

In 2015, the RTU **FEEM Service and Information Centre** was established. It helps improve student services at the faculty, as well as creates the overall image of the faculty and RTU. The Centre provides the following services: photocopying, document printing; key distribution (for classrooms and shared rooms), first aid kit storage, student and guest counselling, information provision and display (on notice boards in the Faculty premises, on the Faculty website and other

information media).

To promote and ensure the accessibility of higher education and provide access to all students and visitors with reduced mobility, the **building** of the Faculty of Engineering Economics and Management at Kalnciema Street 6 has **been adapted for persons with reduced mobility**:

- access to the building via the basement, which has a wheelchair-accessible route;
- the building has lift access;
- specially equipped facilities for people with reduced mobility;
- the location of the classroom number signs next to the doors at a height (1300 – 1800 mm).
- the width of the doors in the classrooms is appropriate;
- easy access to the canteen.

The FEEM Student Self-government organizes various student support, motivation and involvement events every year. In academic year 2021/2022, almost 20 different thematic events were organized, such as:

- ECU Fest 21 – an annual camp for first-year students to introduce them to current events at the FEEM. It is customary for the Dean of the Faculty, academic staff, Student Self-government and representatives of RTU Student Parliament to share their experience and advice. Participants took part in team relays, learning how to interact with future course mates.
- FEEM Pride – an annual event where the FEEM academic staff and administration are awarded in various nominations. To find out the nominees, surveys are carried out among students. The Dean opens the award ceremony with her speech, in which she looks back at the past year, the work done, achievements and events experienced.
- First FEEM – an informative meeting to find out the latest developments in the study process from the faculty administration, to get answers to topical questions.
- Freshers' initiation – an annual event to initiate first-year students into the new phase in an informal atmosphere. The initiation gives freshers the opportunity to get out of their comfort zone, competing in a variety of interesting challenges and getting to know each other in non-standard situations.
- ECU Fest 21 afterparty – the main goal of the event was to motivate the freshmen campers to continue to represent the Student Self-government, promote cohesion and not to lose contact with potential members.
- Erudition competition "Prātplēsi – pieslēdzies!" – an event organized in cooperation with the Latvian Academy of Culture in honor of Lāčplēsis Day. Participants answer various questions related to Latvia, its history and other current events.
- Pre-exam seminar – This event gives FEEM students the opportunity to learn about the exam process and related academic issues: the academic arrears system, rotation, etc.
- (IE)SPĒJA: Media literacy – the event gave students the opportunity to learn about the different aspects of media literacy, its application in everyday life and the power of information in security issues – private and national. The week-long event provided an opportunity to learn from experts on issues such as - what is the difference between disinformation, cyber security and fake news? How can media literacy be used in business?
- Erasmus+ story evening – students were introduced to the opportunities offered by Erasmus+ and the details of international agreements between different universities and RTU. Various experience stories and useful information were shared to make it easier for potential applicants to realize their aspirations.
- FEEM Ambassadors – to attract prospective students, the Student Self-government initiated a project in which current students went to Latvian educational institutions to tell about the educational and extra-curricular opportunities offered by RTU and FEEM. During two months,

the representatives of the FEEM Student Self-government visited 10 secondary schools across Latvia. The pupils learned about the opportunities at RTU, as well as about the student experience at the FEEM and RTU in general. This is a new project, which is planned to be developed further.

- Garden Festival – an event organized by the Student Self-government to celebrate the 55th Anniversary of the FEEM together with the Faculty administration. Jasmine trees were planted in the courtyard, and musical performance was enjoyed by the staff and attendees.

It is important to note that the above-mentioned events are organized by the FEEM Student Self-Government. Students also take part in the events organized by RTU Student Parliament.

RTU International Cooperation Department has academic consultants who consult foreign students on studies and practical issues. Academic consultants keep track of the students' academic performance and attendance, as well as meet students on a regular basis to make sure their studies are successful, both in and outside the classroom. Shortly after the arrival of students, academic seminars are held, which are compulsory for all new students. Academic seminars are held approximately twice a week at the beginning of each semester, in line with the student influx. During these seminars, academic consultants introduce students to RTU internal rules, their responsibilities and rights, academic integrity, and various other practical aspects. In the future, it is planned to divide the students into groups according to the study programmes and to involve the heads of the study programme in the seminars so that the students would get acquainted with the management of the programme in due time. If during the semester a student is observed to face difficulties with the study process (attendance, academic arrears), the student is invited to an individual meeting with his/her academic consultant to discuss the best possible solutions to the problem. Each academic consultant has to arrange meetings with 10-15 students per week. After a month, students are invited to the meeting again to discuss their progress and make sure the situation has improved.

At RTU International Cooperation Department, students have a contact person for facilitating the immigration process. The contact person organizes immigration seminars and document examination at the beginning of the semester. The Department arranges an appointment for students with the Office of Citizenship and Migration Affairs of the Republic of Latvia and verify the compliance of the submitted documents with the requirements specified in regulatory enactments.

RTU International Cooperation Department foreign student admission team organizes introductory or orientation virtual seminars for foreign students, which take place before the beginning of the academic year / semester and students' arrival in Latvia, to inform students about practical issues related to entry and stay in Latvia (entry requirements, vaccination, self-isolation, accommodation, etc.)

International Cooperation Department in cooperation with the Student Service provides its students with a career counselor, who explains employment-related issues to students and introduces them to available vacancies, thus facilitating students to gain work experience and develop their skills and abilities.

2.4. Scientific Research and Artistic Creation

2.4.1. Description and assessment of the fields of scientific research and/or artistic creation in the study field, their compliance with the aims of the higher education institution/ college and the study field, and the development level of scientific research

and artistic creation (provide a separate description of the role of the doctoral study programmes, if applicable).

It is a requirement of RTU that academic staff are actively involved in research apart from their involvement in the study process. Professors and associate professors are re-evaluated and re-elected every six years. Candidates are obliged to comply with certain criteria in terms of scientific research, i.e., number of publications or patents, supervised Doctoral candidates, etc. (Decision of RTU Senate No. 594 "On RTU Regulation regarding the Approval of the New Edition of Procedure of Electing Professors and Associate Professors" as of 30 November 2015). In order to be allowed to supervise Doctoral students, the academic staff have to be approved experts in their fields, which is possible only if criteria regarding the number of publications/patents are met (decision of RTU Senate No. 602 "On Amendments to RTU Regulation on Doctorate" as of 26 September 2016). Approval process for the experts is organized by the Latvian Council of Science. The database of the experts is published in the National Research Information System (NRIS; <http://sciencelatvia.lv>).

Every year, the Rector and faculty deans sign agreements by which each faculty undertakes to achieve certain key performance indicators, many of which are based on research output, e.g., the number of publications/patents, obtained research project funding, etc. Achievement of these indicators has an impact on financing received by the faculty from the so-called performance-based funds.

Research and artistic creation of academic staff of the study field "Transport Services" takes place at FEEM ensuring academic freedom, in accordance with strategic goals of RTU and FEEM and the direction of scientific activity of academic staff at the RTU FEEM institute and department or RBS.

Research directions are implemented in cooperation with the relevant sectors of the economy. Active external and customer-oriented communication, addressing representatives of the industry to promote cooperation with universities and structural units implementing study programs and their academic staff, concluding cooperation agreements with other higher education institutions about the creation and implementation of joint study courses or modules. Development and activation of industrial research by developing research for industries or specific companies on important and current topics.

FEEM currently includes 2 institutes conducting research. The FEEM institutes are unique in their field and participate in the implementation of the study direction "Transport Services". Each of them uses in its work and introduces the latest management theories and principles, which are also reflected in the scientific papers and projects developed by the institutes, as well as the doctoral theses developed by doctoral students.

2.4.2. 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.

FEEM vision is to be recognized as an international centre of research and study excellence with local and global influence in engineering economics, management engineering, security, innovation and technology transfer based on our researchers, graduates, research and strategic partnerships.

The FEEM has identified 5 key strategic areas on which long-term research objectives are based:

- increase the number of high-quality and internationally recognised researchers. In the next programming period, the IEVF should provide at least 66 elected researchers with an average age of 44, providing a stimulating environment for researchers after completing their academic or doctoral studies, establishing and maintaining research partnerships, etc.
- provide an internationally recognized research process, judged by a growing number of publications, research projects, conferences, etc. Count.
- ensuring efficient research infrastructures by investing in the development of quality research infrastructures and by providing comprehensive resources for research;
- ensuring sustainable innovation, commercialisation and technology transfer to the economy by promoting interdisciplinary knowledge and technology transfer, establishing and maintaining research partnerships, key performance indicators for established start-ups and attracted industry research funding;
- improve internal and external communication and cooperation.

All these research objectives are aimed at promoting successful research, linking it to and integrating academic studies, as well as at helping early-stage researchers to successfully enter the profession.

The interdisciplinary role of research is ensured by engaging in the work of RTU Research Platforms, which aim to provide interfaculty, interdisciplinary research in areas of importance to the national economy and society. Research platforms are a cooperation coordination mechanism, the task of which is to analyze the needs of enterprises and various state institutions in order to define potential research directions in accordance with the competences of RTU, to organize relevant internal project tenders, applications for international projects, cooperation with enterprises and state institutions.

The connection of scientific research with the study process is ensured by using the possible principles of knowledge transfer and continuous improvement of competences, which is manifested by integrating research results into study courses and the study process, involving students in research, introducing students to current research results, providing an opportunity to conduct research activities independently and in cooperation (group work). The connection of science and research with the study process is also ensured by the involvement of guest lecturers in lectures and practical classes, students actively participating in international conferences and seminars, preparing international scientific publications and participating in international cooperation research projects.

Scientific research is of paramount importance at university and must provide the basis for academic work. The curriculum must be relevant to the latest scientific trends. This approach is pursued in the study field "Transport Services". The research component of the work with students is ensured by participation in projects, contract work and conferences, as well as the development of publications. The most important publications of the academic staff of the study field are summarized in the appendix "List of Publications, Patents, Artistic Creations of the Academic Staff in the Reporting Period" (see Annex 14. List of academic staff publications). By preparing scientific articles for publication, academic staff involved in study field supplement the study courses with practical examples and calculations, the latest scientific knowledge, and theories, thus contributing to students' understanding of logistics and storage industry issues, trends, methods of mitigating various risks, and enabling them to fully interpret and analyze the results obtained. The link between scientific research and the study process can be illustrated by some examples.

By publishing a scientific article "Use of the Fault Tree when Drawing up the Riga City Civil Protection Plan for Risk Assessment" in Scientific Conference on Economics and Entrepreneurship

SCEE '2020: Organized within the 61st International Scientific Conference of Riga Technical University: Book of Abstracts, Latvia, Riga, 14-16 October 2020. Riga: RTU Press, 2020, pp.39-39. ISBN 978-9934-22-510-9. ISSN 2256-0866, together with co-authors M. Urbans and V. Jemeljanova, J. Pundure supplemented the study courses ICA105, "Civil Defence" with up-to-date examples.

A significant contribution to the improvement of the study process has been made by groups of authors: documents developed by Ingūna Jurgelāne-Kaldava, Olga Bogdanova, Velga Ozolina, Remigija Počs, Agnese Batenko and Inese Spalva: "Methodological guidelines for the professional master's study programme "Logistics and Supply Chain Security" (2022) and Methodological guidelines for the 1st level professional higher education study programme "Logistics" (2023)". In turn, the group of authors: Inga Lapiņa, Daira Aramina, Leonards Budniks, Tatjana Celmiņa, Kristīne Fedotova, Krista Griķe, Liene Ivanova, Līga Kamola, Konstantins Kozlovskis, Nadezhda Semjonova, Inese Vilcāne has developed "Formatting guidelines for study and graduate works"(2016).

2.4.3. 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.

The teaching staff of the study field, in order to ensure continuous growth, use various forms of international scientific activity. These are - participation in international projects, publication of their results on project websites, as well as organization and participation in international scientific conferences and seminars, publication of articles in scientific journals indexed in recognized databases (WOS, Scopus).

International cooperation, which is implemented in accordance with the priorities and plans of the study field in the fields of improvement of the efficiency of the national economic security, customs and tax administration, civil protection and other appropriate areas, should be highly appreciated. In international projects, joint studies and publications are produced together with involved partners from other universities as part of cooperation.

In addition, the academic staff regularly participates in conferences and seminars dedicated to logistical problems, for example, the Forum of the Association Women in Transport "Women's Choice in Education and Profession", which took place on 27.10.2023 or the conference "NATO Climate and Security Issues: Challenges to the Defence and Security of Latvia and Opportunities for the Industry", which took place on 06.11.2023. As a successful example of cooperation between scientists and representatives of the field, special emphasis should be placed on the conference organized by RTU: "Look at the Future Mobility: Innovations, Education and Collaboration," which took place on 08.11.2023 and which was attended not only by academic staff, for example, lecturer L.Millere-Krūma, lecturer A.Starčenko, asoc. prrof. J.Hudenko and asoc.prof. I.Jurgelāne-Kaldava, but also representatives of the logistics sector and industry policy makers, such as the Minister of Transport of the Republic of Latvia K.Briškens, the Chairman of the Board of Latvijas Dzelzceļš R.Ļavnieks, the Chairwoman of the Board of SIA Rīgas Satiksme Dž.Innuse, etc. As a result of this conference, proposals were developed to improve the field of logistics.

The academic staff involved in the implementation of study programmes "Logistics" and "Logistics and Supply Chain Security" are involved both in the implementation of RTU projects, in the implementation of international projects, and in other national research projects.

As an example of participation in the implementation of strategically important projects at RTU is the project "Reducing fragmentation of study programmes at Riga Technical University and strengthening resource sharing". ESF project aimed at developing a new professional master's degree program "Logistics and Supply Chain Security". The project was implemented from 01.05.2019 - 31.08.2023, in the project implementation participated study field "Transport Services" director, asoc. prof. I.Jurgelāne-Kaldava.

Participation in international projects provides an opportunity for the academic staff involved in the implementation of study programmes to supplement the content of study courses and study materials with practical insights based on the experience gained in cooperation with universities or companies of other countries in Latvia and abroad. Some examples of such projects include:

- Erasmus + project implemented since 2020: "National coordinators for the implementation of the European program in adult education" (in the project implementation involved asoc.prof. I.Jurgelāne-Kaldava).
- Central Baltic project implemented from 2018 to 2021: "Development of university-level professional logistics education in the Central Baltic States" (in the project implementation was involved lecturer A.Starčenko).
- ESF project implemented from 2020 to 2021: "Conducting a study on the fulfillment of investment prerequisites for the implementation of a comprehensive transport planning system, which includes investment mapping and the development of investment evaluation methodology"" (in the project implementation were involved prof. V.Skribans, asoc.prof. J.Hudenko, assistant professor V.Ozoliņa).
- Horizon 2020 project implemented since March 2023: "Shaping the future transformation of workforce in transport automation" (in the project implementation involved asoc.prof. I.Jurgelāne-Kaldava).

Also, the academic staff involved in the implementation of the study programs engages in various sectoral studies, thus promoting and strengthening cooperation with companies in the field. An example is a study conducted at the request of LDZ Cargo Ltd.: "Rail freight market research in Lithuania". The aim of the research was to study the field of rail transport in Lithuania and to develop proposals for LDZ Cargo Ltd. to enter the Lithuanian market. The project was implemented from 01.09.2023 - 16.12.2023. Asoc.prof. I.Jurgelāne-Kaldava was involved in the implementation of the research as the research leader and leading researcher, but as a researcher was involved asoc. prof. J.Hudenko.

In order to ensure the continuous involvement of the academic staff involved in the implementation of study programmes in scientific projects, applications for new projects are regularly written. At the time of submitting of the accreditation report, together with cooperation partners from the Netherlands and Indonesia, an Erasmus+ project application: "Strengthening higher education institutes to enhance regional sustainable development in maritime, port, transport & logistics in Bitung, Ternate and Kalimantan." Was developed and submitted. The aim of this project is to develop and approve bachelor's and master's level courses in the field of logistics, as well as to adopt the good practices of both countries in the provision of logistics education.

2.4.4. 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 field by providing examples.

It is a requirement of RTU that academic staff are actively involved in research apart from their involvement in the study process. Professors and associate professors are re-evaluated and re-elected every six years. Candidates are obliged to comply with certain criteria in terms of scientific research, i.e., number of publications or patents, supervised Doctoral candidates, etc. (Decision of RTU Senate No. 633 "On approval of the RTU Regulations "On the Procedure for Election of a Candidate for the Position of Professor or Associate Professor and the Procedure for Assessing the Qualification of an Existing Professor or Associate Professor" in a new edition" as of 30 May 2022). In order to be allowed to supervise Doctoral students, the academic staff have to be approved experts in their fields, which is possible only if criteria regarding the number of publications/patents are met (decision of RTU Senate No. 602 "On Amendments to RTU Regulation on Doctorate" as of 26 September 2016). Approval process for the experts is organized by the Latvian Council of Science. The database of the experts is published on the National Research Information System (NRIS; <http://sciencelatvia.lv>).

Every year, the Rector and faculty deans sign agreements by which each faculty undertakes to achieve certain key performance indicators, many of which are based on research output, e.g., the number of publications/patents, obtained research project funding, etc. Achievement of these indicators has an impact on financing received by the faculty from the so-called performance-based funds.

RTU Research and Innovation Support Fund (order of RTU Rector No 01000-1.1-e/48 "RTU Regulation of Research and Innovation Support Fund" as of 2 February 2024) aims at providing financial support for various research related activities, such as support for maintenance of research equipment, protection and licensing of intellectual property, covering of expenses related to the Doctoral study process, publishing of scientific journals, participation and organization of scientific conferences, support to researchers in establishing new laboratories in a prospective research field. The Research Support Fund is an instrument to support research activities, which foster the development of the strategically important research fields.

Six research platforms in the main strategic research areas of RTU were established in 2013 as an instrument for fostering inter-disciplinary and inter-faculty cooperation of researchers in the areas of importance for industry and society. These platforms are as follows: "Energy and Environment", "Cities and Development", "Information and Communication Technologies", "Transport", "Materials, Processes and Technologies", "Security and Defence. Each platform has a dedicated coordinator, and they comprise the Council of Coordinators responsible for implementing the activities within platforms. The Council is supervised by the Office of Vice-Rector for Research (Decision of RTU Senate No. 600 "On Approval of the Regulation of the Council of Coordinators of Research Platforms at Riga Technical University" as of 23 May 2016). Similar to the faculties, the platforms have the Research Program (Decision of RTU Senate No. 590 "On Authorization to Approve RTU Research Program by RTU Scientific Council" as of 27 May 2015; "Research Program of Technical University 2016-2020"), annual action plan and dedicated funding from the Research Support Fund. Internal project calls within the platforms are organized every year, allocating 90-120 thousand EUR in total to six projects selected on a competitive basis. A mandatory requirement for the projects is a minimum 20% industry co-financing and participation of more than one faculty. In the period of 2016-2020, 16 projects were supported and nearly 300,000 EUR of funding was allocated to the projects. Regular series of seminars and visits to companies are also organized by the research platforms to stimulate networking and cooperation with industry.

Efficiency of these mechanisms can be illustrated by growth of SCOPUS indexed publications in the period of 2013-2019. The total number of the publications increased from approximately 440

publications per year in 2013 to 879 in 2021. Number of SCOPUS publications per researcher (expressed in full-time-equivalent (FTE)) increased from circa 0.9 in 2013 to circa 1.7 publications/FTE per year in 2021 (the data were obtained from Elsevier “SciVal” database on 16 November 2021).

Alongside with the academic workload, the elected academic staff also performs scientific work, which forms the research workload. The results of the research work can be evaluated as very successful, it is proven by the number of publications and projects during the reporting period. In figure 2.4.1. the number of publications by year is shown.

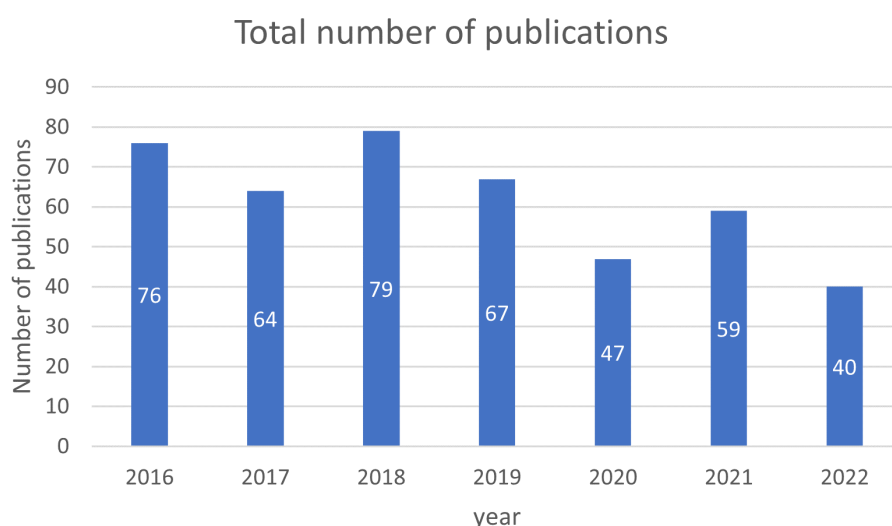


Figure 2.4.1. Total number of publications

In total, during the reporting period, RTU academic staff involved in the implementation of the study field have prepared 432 publications (in average 62 publications per year). The number of publications over the years is relatively stable and this indicates a stable research load. Professors, associate professors, leading researchers, as well as researchers and research assistants who are also doctoral students have the highest number of publications.

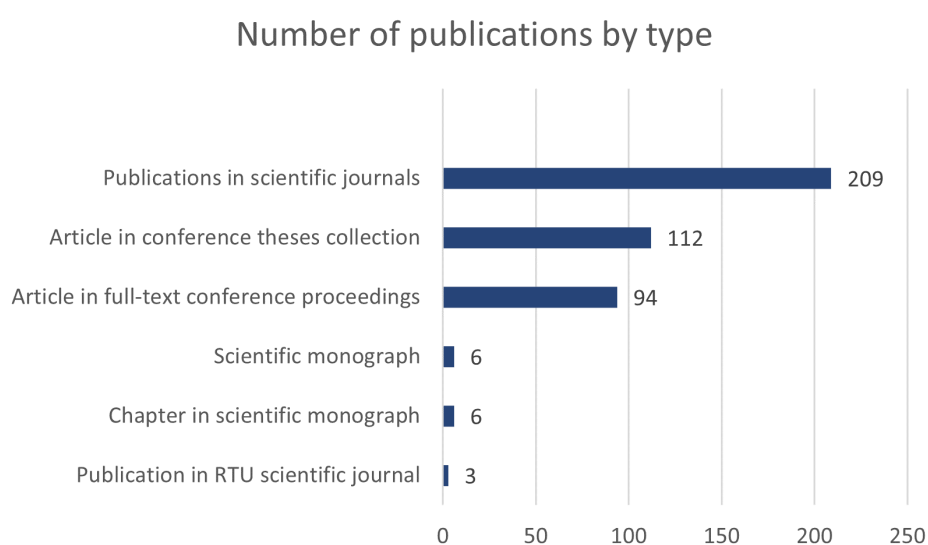


Figure 2.4.2. Number of publications by type

More than a third of the total number of publications are publications in scientific journals. On the other hand, the three most common types of publications - publications in scientific journals,

articles in collections of conference theses and publications in scientific journals make up 415 publications or 96% of the total number of publications. This indicates the active participation of the teaching staff in scientific conferences and largely indicates the compliance of the academic activities performed by the teaching staff with the current trends of the represented sector.

All academic staff are actively involved in scientific and applied research in accordance with the Development Plan. Every year, several studies have been produced, teaching staff participate in international scientific conferences, and publications are published. Detailed information can be found in the appendix Summary of quantitative data on the activities of the study field.

Jelena Pundure is the co-author of many publications in occupational safety and health, including Optimal Solutions for Special Machinery and Equipment Norms Required by the Latvian State Fire and Rescue Service (2022), Development of Labor Protection Requirements for Officials of the State Fire and Rescue Service by Performing Preventive, Preparedness, Response and Mitigation Measures in Case of Leakage of Dangerous Chemicals at in Increased Hazard Objects (2021) Insights are used in Civil Protection study courses.

Ingūna Jurgelāne-Kaldava implements study courses on International Business Planning, which also includes insights from research and projects, including development of central Baltic university-level professional logistics education, Innovations in social entrepreneurship education, competitiveness of Latvian companies in external markets and to provide proposals for strengthening it (EKOSOC_LV 5.2.1), reduction of fragmentation of study programmes at Riga Technical University and resource strengthening sharing, as well as from The Methodology for Economic Assessment of Planned Investment (2022), Selection of Logistics Service Providers: Critical Analysis of Methods (2021) and others.

In addition to scientific research, academic staff is involved in the implementation of various projects. For the most part, the academic staff is involved in various local and European Union level projects with the aim of promoting entrepreneurship, education and overall industry development.

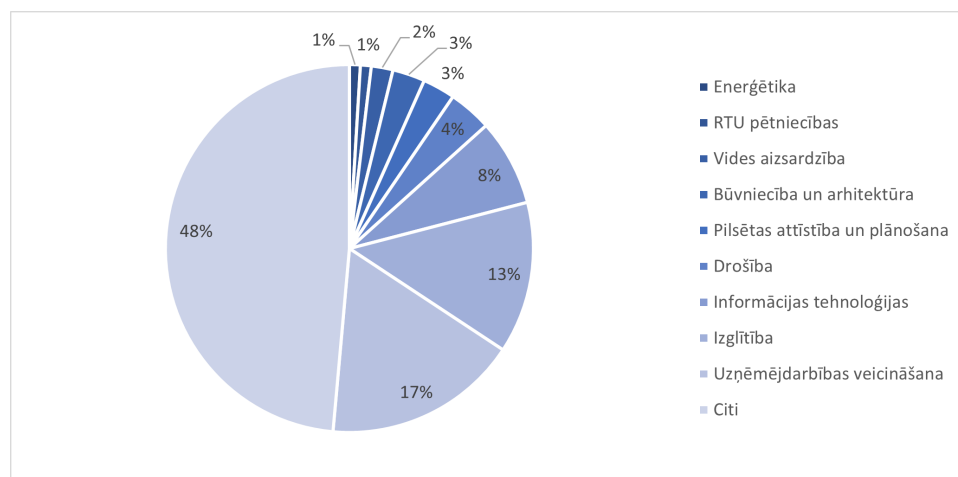


Figure 2.4.3. Distribution of implemented projects by field.

In general, the participation of the personnel involved in the field of study in the research process is characterized by: the number of patents put forward and obtained by the staff, the number of personnel publications, the number of doctoral theses supervised and defended by the staff, the number of research projects.

During the reporting period, the teaching staff responsible in the field of study have participated in the management of the following doctoral theses or defended it themselves, for example,:

- Artūrs Zeps, Strategic Solutions for Sustainable Development and International Excellence of

Organizations (2016), supervisor Remigijs Počs

- Justīna Hudenko, Development and application of models for optimal development of public-use railway infrastructure (2017), supervisor: Remigijs Počs
- Aldis Čevers, Systemic solution for customs process management and organization assessment (2021), supervisor: Aivars Vilnis Krastiņš.

2.4.5. Specify how the involvement of the students in scientific research and/ or applied 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 field in scientific research and/ or applied research and/or artistic creation activities by giving examples of the opportunities offered to and used by the students.

RTU has mechanisms for involvement of students from all study levels and programs in research activities. For example, in the process of studying, research is carried out in both theoretical and practical ways (with economic calculations) of study courses related to the development of study projects. Also, during the study period within the framework of the programs included in the field of study, employers have expressed research topics relevant to the industry for the final topics. Internships are also mandatory for students, during which companies / institutions in the industry supplement and apply already existing knowledge. On the internship, the student prepares a report in which applied research is carried out with analysis and practical solutions for the place of practice for the improvement of activities.

Students' involvement in scientific and applied research will be realized as the best master's theses authors publications.

As activities are carried out aimed at improving doctoral studies and providing young researchers with career opportunities in the postdoctoral period, young researchers are also happy to involve students in carrying out their research.

Internal project calls within the six research platforms, which are organized every year, have criteria regarding the involvement of students in the project, giving an additional score if students at the Bachelor, Master or Doctoral level are involved in the project.

The Design Factory (DF) of RTU Science and innovation centre (see additional information about the DF below) organizes the study course "Vertically Integrated Project" (VIP), during which interdisciplinary student teams develop a challenging long-term research project under the guidance of experienced researchers. The course is implemented in cooperation with researchers from the Georgia Institute of Technology (the USA). Within the course, cross-disciplinary student teams are assembled, bringing together students from at least three different study programmes, and ranging from first-year Bachelor students to Doctoral students, as well as involving pupils from the Engineering High School (EHS) of RTU (see additional information about the EHS below). During the course, students participate in research work under supervision of RTU researchers, working together with students of other study programmes and gaining experience in research as well as in team and project work. At the end of the course, each team presents its progress and demonstrates the results obtained.

The Engineering High School of Riga Technical University is the first general secondary education establishment in Latvia that has been founded within the framework of a university. It is the place where the most talented Latvian pupils can acquire the study courses in exact and natural sciences

at an advanced level to get prepared for the engineering studies. At the EHS, special attention is paid to the integration of engineering studies and scientific research activities into the study process.

A success story is the establishment of [DF Labs](#) for design and prototyping. Idea of having the Lab at RTU was inspired by a positive example of Aalto University in Finland. Its task is to provide expertise and shared infrastructure for developing prototypes of new products and technologies, based on ideas of students and researchers. RTU DF also works with industry, start-ups and spin-offs and has established a very good reputation. We could observe that it considerably improved the involvement of students at all study levels in research and innovation activities and promoted cooperation of RTU with industry.

On the basis of DF, in January 2022 the RTU Science and Innovation Centre was opened (<https://www.rtu.lv/en/research/science-and-innovation-centre>). The Science and Innovation Center (SIC) enables the capacity of innovators, implements innovation and knowledge transfer processes, attracting, balancing and adjusting the resources necessary to ensure the innovation system and operation in the following main aspects:

1. Helping innovators to improve their knowledge and skills in various entrepreneurship development programmes. More than 1,000 RTU students and 300 students from other universities take part in them every year.
2. By implementing various activities that ensure the generation of ideas: development of ideas (prototyping), pre-incubation, an incubator of science-intensive ideas and an accelerator of climate neutrality. More than 150 teams receive support every year.
3. Implementing partnerships, representing innovation and knowledge ecosystems in Latvia and the Baltics.

ZIC's support to students and scientists by enabling their skills and providing open infrastructure develops their prototyping skills and collaboration with industry. The goal is to integrate ZIC activities in the distribution of state funding, as an important parallel process in the improvement of educational research.

At the same time, the ongoing of cooperation with the European institutions is taking place. It ensures the transfer of experience, knowledge, mobility and promotion of RTU services. An important direction is the development of products with added value, where it is necessary to stabilize the flow of requests.

In the field of innovation capacity in security, there is close cooperation with the Ministry of Defense of the Republic of Latvia. In 2020 the first "Security Hackathon" was implemented, where more than 100 participants within 48 hours developed prototypes of security solutions, demonstrating their operation to the jury. This successful event and active participation of RTU scientists in the "Innovation grant competition" of Defense, a repeated event was held in 2022.

At the same time, active work is underway to the implementation of the NATO acceleration programme "Defence Innovation Accelerator for the North Atlantic" in Latvia, which would provide additional support to start-ups in the security sector.

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

New approaches are being found for the development of the study direction "Transport Services", the improvement of its content and the course of the study process. Since the transition from "teaching" to "learning" is relevant, then this affects the methodology for the implementation of study courses. Of particular importance in this case are interactive and innovative methods of study. The knowledge embedded in research and scientific activity is used in the study process. In turn, organizational innovations are based on the digitalisation of study courses.

Innovation, valorisation and introduction of innovative methods in the study process is one of RTU's strategic priorities. IEVF's innovation activities take place in several directions and levels. The teaching staff of IEVF ensures the implementation of study courses related to the exhibition and commercialization of innovative products in all faculties of the university, it ensures creativity, development of innovations and continuous transfer of knowledge. As a result of this activity, student start-ups are created, which continue their development in one of the RTU or Latvian business incubators

In order to promote the economic growth of Latvia and the development of modern manufacturing sectors, RTU provides an opportunity for students to develop entrepreneurial competence and the opportunity to be aware of whether this field of activity interests them or not. The 2015 RTU Senate decision stipulates that the module for the study of entrepreneurship, technology transfer and product development should be introduced in all engineering study programmes. RTU is the first university in Latvia that plans to integrate the entrepreneurship and innovation module into all RTU bachelor's level study programmes by 2019. In this academic year, the moduia pilot project was implemented at the Faculty of Mechanical Engineering, Transport and Aeronautics. Students, practically working on projects, develop the competence and creative thinking of an entrepreneur, moreover, daia from the project is a job at RTU Design Factory on prototyping, turning their theoretical knowledge into real products or services. As a result of the whole process, the student understands whether he is a scientist, inventor, whether he is an engineer and an entrepreneur. The student has learned how previously identified consumer needs can be translated into a product or service. This is an important competence, the development of which in young engineers did not receive special attention before, says the pilot project manager and one of the authors of moduia, Professor Elīna Gaile-Sarkane. From the 2017/2018 academic year, a pilot project for the implementation of the business study course at the faculties of engineering continues. Professor Elīna Gaile-Sarkane implemented the study course "Development of innovative products and entrepreneurship" for bachelor's level students of the Faculty of Energy and Electrical Engineering and the Faculty of Mechanical Engineering, Transport and Aeronautics and the Faculty of Electronics and Telecommunications for undergraduate students.

The Marketing Idea Contest 2018, or MIC2018, took place in November 2018. This year, the annual IEVF SP event "Reclamator" was reborn in a new form, and it was organized together with the Turība Business School. Three large and well-known companies in Latvia were addressed – Sigulda Adventures, Giant!, Four Soles. Participants had to develop solutions for the tasks offered by the companies, and the authors of the best ideas were also given valuable gifts from the companies. The event was attended by students not only from IEVF, but also from other RTU faculties, from Turība, as well as from other HEIs. A total of 15 teams participated in the event, 4 of which were foreigners, and one of them also defeated the Giant! Exercise.

In general, innovative solutions, international and local experience are actively integrated into the study process. The most significant shortcoming is the insufficient scientific ambitions and unreasonably high self-criticism of researchers in strengthening cooperation with the world's leading research institution

2.5. Cooperation and Internationalisation

2.5.1. Provide the assessment as to how the cooperation with different institutions from Latvia (higher education institutions/ colleges, employers, employers' organisations, municipalities, non-governmental organisations, scientific institutes, etc.) within the study field contributes to the achievement of the aims and learning outcomes of the study field. Specify the criteria by which the cooperation partners for the study field 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 cooperation partners.

The study field has a long history of successful cooperation with companies, industry associations and state organizations. Every year, cooperation expands, strengthens and new forms of cooperation appear, with an increased mutual interest in ensuring the successful outcome of cooperation. The main areas of cooperation and activities within the framework of study directions are:

- ensuring and improving the study process and quality, including improvement of the content of programmes and forecasts of the need for specialists;
- ensuring internships and professional development of students by offering internships and jobs;
- management and review of studies and final theses, offer of topics for final works (formulating problems to be solved in enterprises so that students can develop economically justified solutions);
- custom research and approbation of the results of scientific research for students;
- involvement of professionals (company specialists) in the study process and in the composition of the State examination commission;
- organization and implementation of other, non-study events, including company scholarships and support for students, Career Days (see in addition);
- representation of university and industry interests in national and international organizations; participation in competition juries (e.g. Cup of Ideas), investment attraction events (Cambridge Venture Camp), evaluation of new product ideas (e.g. Demolac)

In order to ensure continuous dialogue between the parties, working groups, seminars, events and conferences are regularly organised, where all the parties involved – employers, alumni, university academics and students – can meet. At such meetings, the quality of the programs, the content and form of study courses, the organization and implementation of practical work are discussed. The study programmes included in the study field in the process of their implementation are supplemented and updated on the basis of labour market studies and consultations with employers and practitioners. The recommendations of graduates, students and academic staff of the university have an essential feature in the improvement of the field of study. Surveys of graduates and employers are regularly conducted. Respondents are invited to evaluate the programs, the knowledge and skills of graduates of the programs, as well as their compliance with the requirements of the labor market. In general, the results of surveys show that employers positively evaluate all study programs in the direction and their topicality. Evaluating the results of employer surveys of recent years, it can be concluded that employers welcome graduates of the programs, emphasize the desire of young specialists to improve professionally, as well as the need for closer

cooperation, especially in the field of practical training.

In October 2017, the RTU FEEM was established, and the FEEM Council meeting approved the **FEEM Convention of Councillors**. The aim of the convention is to promote the development of RTU and faculty that meets the RTU strategy and the needs of the national economy. The main tasks of the Convention are to advise the faculty administration, to provide opinions and proposals on the development of the faculty and RTU as a whole, improvements in the study process, on planned financial investments, changes in management model and other significant issues of the faculty's activities. The convention involves 11 members - specialists of the national economy, whose main job is not at RTU and who, with their professionalism and work experience, can contribute to the development of the faculty. Chairman of the Board of SIA Vollers – Rīga, President of the Association of Road Hauliers "Latvijas Auto", Chairman of the Board of SIA "Grif", Head of the Civil Protection Department of the VUGD, Member of the Board of SIS LATSIGN, Director of the Latvian Zaia Point, Chairman of the Board of SIA Leilands un Putnis, Executive Director of the Association of Regional Development Centres, Head of the Procurement Monitoring Bureau, Deputy Chairman of the Board of the Latvian Union of Civil Engineers, Member of the Board of SIA MAXIMA Latvija.

In the academic year 2017/2018 (November, February, June), the first three meetings of the Convention were held. In them, the participants of the meeting were introduced to the tasks, goals and responsibilities of the Convention, the purpose of the study field and their compliance with the requirements and development directions of the labour market were discussed and clarified. The members of the Convention were introduced to the ESF project (No.8.2.2.0/18/A/017) "Strengthening the academic staff of Riga Technical University in areas of strategic specialization" (SAM 8.2.2.) on the provision of internship opportunities for academic staff of Riga Technical University in enterprises. As well as discussing industry maps and profession standards, the development of profession standards and the delegation of representatives to working groups for the development of profession standards.

Representatives of the FEEM Convention are actively involved in the development of sectoral qualification structures and occupational standards.

Within the framework of the study field in cooperation with various professional organizations, both the organization of joint conferences and the organization of seminars, as well as scientific cooperation, consultations on the development of the industry and the necessary changes and improvements in the education system take place. Among the most important cooperation partners of the direction in this field should be mentioned:

- Employers' Confederation of Latvia (LDDK);
- Association of Latvian Economists;
- Investment and Development Agency of Latvia;
- Latvian Logistics Association;
- Latvian National Association of Freight Forwarders and Logistics (LAFF);
- Latvian Chamber of Commerce and Industry (LCCI);
- Latvian Transport Development and Education Association;

It has already been mentioned above that the management of the study direction is ensured by the commission of the study direction, where specialists in the field are also included (see annex 20 composition of the commission of the study direction). This is another effective form of cooperation with employers. Their opinion is very important in creating the content of study programmes, as it helps to maintain a close connection with current trends in the national economy and processes taking place in local governments. Information on the cooperation agreements concluded is given in the Annex. According to the study direction and study programs, cooperation partners are selected

according to the content of the programs, including practice tasks and topics of final theses.

The academic staff of the study field participates in nationally significant sectoral expert councils:

- In November 2017, at the meeting of the Expert Council of the Transport and Logistics Sector, study field "Transport Services" director, Associate Professor Ingūna Jurgelāne-Kaldava was elected deputy chairman of the Council of Experts in the Transport and Logistics Sector.
- In the tripartite social dialogue institution of the national level – the Sub-Council for Tripartite Cooperation in Vocational Education and Employment (PINTSA), in which delegated representatives of the Ministry of Education and Science, the Employers' Confederation of Latvia (LDDK) and the Free Trade Union Confederation of Latvia (LBAS) act as social partners, RTU is represented as a member of the LDDK by the Deputy Dean of the FEEM, Professor Inga Lapiņa.

The annex adds information on the concluded cooperation agreements with other institutions, including the provision of internships (both Latvian and foreign), the subject of the agreement and the term of operation.

2.5.2. Provide the assessment as to how the cooperation with different institutions from abroad (higher education institutions/ colleges, employers, employers' organisations, municipalities, non-governmental organisations, scientific institutes, etc.) within the study field contributes to the achievement of the aims and learning outcomes of the study field. Specify the criteria by which the cooperation partners suitable for the study field 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 cooperation partners.

The selection of cooperation partners is based on the previous experience of the study field and cooperation of experts with foreign institutions in the forms of studies, science, project development, participation in associations, etc.

Among the objectives of international cooperation of the study direction "Transport Services" is the promotion and implementation of internationalization activities, t.sk. by participating in international projects, ensuring representation in international professional organizations corresponding to the direction, as well as improving study programs in accordance with international standards.

Cooperation with Latvian and foreign universities

Taking into account the integration of Latvia into the European Union and the globalization of business, the programs of the study direction are implemented in both Latvian and English. As a result, students also learn international business terminology better. The strategy of the IEVF and [RBS \(Riga Business School\)](#) is to become internationally recognized and open to international students, therefore the following international development goals have been set:

- internationalisation of studies, training and research;
- development of international partnerships and cooperation;
- expanding the international experience of students;
- effective attraction of international students;

- improving the quality of studies of international students;
- expanding the opportunities and motivation of personnel to engage and actively participate in the process of internationalization.

Within the framework of this field of study, IEVF has close cooperation with several Latvian higher education institutions and foreign universities. Agreements have been concluded between RTU and the University of Latvia, RSU on mutual cooperation in the implementation of the study process and on issues of scientific development, which provide for cooperation in all areas, ranging from free student mobility between the two universities to the implementation of joint projects in various fields. The IEVF has also concluded agreements with most of the Latvian colleges on cooperation and opportunities to continue their studies.

Within the framework of the study direction, IEVF participates in the work of several important international organizations and the implementation of international projects. Each of the IEVF and the internationalization goals set out has detailed sub-objectives and tasks to be performed. It should be noted that the number of foreign higher education institutions with which cooperation is ensured is growing every year, thus providing an opportunity for students to study or practice abroad, as well as international cooperation of academic staff, which takes place both in the fields of research and academic work.

Within the framework of the study direction, visits by students of higher education institutions from EU Member States:

A group of logistics and industrial design students from study field Erasmus+ partner university Windesheim University of Applied Sciences (Netherlands) visited FEEM. On the first day of the visit, lectures were held, but on the second day of the visit, students visited SIA "Rīgas universal terminals" and JSC "Aldaris".

2.5.3. Specify the system or mechanisms, which are used to attract the students and the teaching staff from abroad. Provide the assessment of the incoming and outgoing mobility of the teaching staff in the reporting period, the mobility dynamics, and the issues which the higher education institution/ college faces with regard to the mobility of the teaching staff.

To attract foreign students to RTU, two communication target groups are mainly addressed:

- the internal: management team; general staff, academic staff; existing students;
- the external: prospective foreign students (foreign students studying in Latvia, foreign pupils and students, parents of foreign pupils and students); foreign graduates; mass media; opinion leaders; educational institutions; student recruitment education agencies; diplomatic and consular missions of the Republic of Latvia.

The communication strategy uses several types of information channels, choosing the most appropriate for each target audience – paid advertising channels, earned and owned ones. Marketing communication is an essential part of addressing foreign audience using all the traditional marketing tools – advertising in media and other channels, event marketing, direct marketing, digital marketing etc. The main marketing tool used to reach foreign audience is participation in various educational exhibitions and seminars organized by educational agencies in target markets. Continuity in the provision of information and promotion of studies is ensured by the long-term partner universities and educational agencies. In order to ensure a permanent

presence and the provision of quality information about studies at RTU and the selection of students, RTU has opened its own information and study centres in specific countries.

Various virtual seminars are widely used to address potential students, with the participation of employees of RTU Department of admission and support of foreign students', existing delegated employees of students and study program directors, who acquaint prospective students with RTU infrastructure, study opportunities and requirements for foreigners, study program content, further study opportunities, as well as career opportunities after graduation.

Department of admission and support of foreign student's foreign student admission staff provides potential students with the opportunity to use online consultations to solve issues related to admission and study program selection. Consultations are arranged by appointment, every week, for a period of two months before the end of the admission period.

Potential students who have provided their contact information to RTU in connection with the commencement of studies, but have not submitted their applications for studies, are regularly addressed at least once a month.

Public relations tools (press releases, media events, face-to-face meetings, interviews, opinion polls, etc.) and RTU social media channels (Facebook, WeChat, WhatsApp, YouTube, etc.) are used in corporate communication. RTU internal channels (ORTUS portal, email, etc.), information seminars and special events are used for internal communication.

RTU foreign student enrolment rates are summarized starting with academic year 2012/2013, indicating whether the student is pursuing undergraduate or graduate studies. The number implies only students enrolled in the first year.

In the study field "Transport Services" international exchanges are regularly held among both students and teaching staff. International mobility is associated with the achievement of the goals of the field of study and is in accordance with the directions of activity described above.

When implementing the incoming and outgoing mobility of academic staff and students, the university faces such problems as different study semester start and end dates, coordination of study courses and learning at partner universities, evaluation of study course results.

As the study program included in the study direction "Transport services" - the short-cycle professional higher education study program "Logistics" was started in February 2023, currently none of the students studying the study program has yet gone on study or practice mobility using Erasmus+ or any other mobility program. Artūrs Kronenthal, a student studying in the professional master's study program "Logistics and supply chain security", went to the Sapienza Università di Roma in Rome (Italy) as part of the Erasmus+ mobility program.

The number of applications processed is much higher than the number of foreign students enrolled:

Table 2.5.1.

	2022./23.	2023./24.
Received applications	83	351
Enrolled in graduate studies	3	128

In the field of study, cooperation with foreign teaching staff takes place in the implementation. For example, the study course "Globalization and integration processes in the world economy" is implemented by Runno Lumiste, a lecturer at Tallinn University, and the study course "Global Logistics and Transport" by Professor Viktor Sencila of Klaipeda University.

In addition, attached::

- Statistical data about foreign students and academic staff (annex 16).
- Statistical data about incoming and outgoing exchange students by programs (annex 17).
- Statistical data about incoming and outgoing exchange of academic staff (annex 18).

2.6. Implementation of the Recommendations Received During the Previous Assessment Procedures

2.6.1. Assessment of the fulfilment of the plan regarding the implementation of the recommendations provided by the experts during the previous accreditation of the study field, 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 field and the relevant study programmes.

On 5 July 2022, the Cabinet of Ministers of the Republic of Latvia adopted a decision to add the Latvian Maritime Academy to RTU from 31 October 2022, concurrently continuing the study process of the LJA, maintaining a certified quality management system that ensures supervision of the process of professional training of seafarers in accordance with external regulatory enactments and compliance with the International Convention on Training and Certification of Seafarers of 1978 as well as guard duty.

The professional bachelor's study programme "Ports and Shipping Management" included in the direction "Transport Services" is not directed towards the assessment, therefore, the recommendations provided in the previous accreditation regarding the study field as a whole are not applicable.

The professional bachelor's study programme "Ports and Shipping Management" as a specialization "Port and Maritime Transport Logistics" will be integrated into the RTU professional bachelor's study programme "Business Logistics".

A report on the implementation of recommendations received both in previous accreditation and in licensing and/or change assessment procedures and/or the procedure for including the study programme in the accreditation sheet of the study field is attached (see annex 19).

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

During the reporting period, two study programmes were licensed – the 1st level professional higher education study programme "Logistics" (study programme licence No. 04051-173 issued on 1 November 2022) and the professional master's study programme "Logistics and Supply Chain Security" (study programme licence No. 04051-173 issued on 1 November 2022).

The recommendations of licensing experts were taken into account both regarding the implementation of IT solutions to be included in the study programmes in logistics courses, on involvement in local and international projects, as well as on the publications of academic staff and the integration of their content into the study courses. For full details about the implementation of the recommendations after the licencing of study program "Logistics" and licencing and inclusion of study program "Logistics and Supply Chain Security" in accredited study field "Transport Services", see Annex 19.

Annexes

I - Information on the Higher Education Institution/ College		
Information on the implementation of the study field in the branches of the higher education institution/ college (if applicable)		
List of the governing regulatory enactments and regulations of the higher education institution/ college	List_of_internal_regulations.zip	leksejo_normativo_aktu_saraksts.zip
The management structure of the higher education institution/ college	RTU_struktura_EN.pdf	RTU_struktura_IV.pdf
II - Description of the Study Field - 2.1. Management of the Study Field		
Plan for the development of the study field (if applicable)	Annex 3. Study field development plan.pdf	3.pielikums. Studiju virziena attīstības plāns.pdf
The management structure of the study field	Annex 4. Study field management structure.pdf	4.pielikums. Studiju virziena pārvaldības struktūra.pdf
A document certifying that the higher education institution or college will provide students with opportunities to continue their education in another study programme or another higher education institution/ college (agreement with another accredited higher education institution or college) if the implementation of the study programme is terminated.	Annex 4. Agreements of continuing education (in Latvian).zip	5.pielikums. Apliecinājumi par izglītības turpināšanu.zip
A document certifying that the higher education institution or college guarantees compensation for losses to students if the study programme is not accredited or the study programme license is revoked due to actions (actions or omissions) of the higher education institution or college and the student does not wish to continue studies in another study programme.	On compensation for losses.pdf	Par zaudējumu kompensāciju.pdf
Standard sample of study agreement	Annex 7. Sample of study agreement.zip	7.pielikums. Studiju līgumu paraugi.zip
II - Description of the Study Field - 2.2. Efficiency of the Internal Quality Assurance System		
Analysis of the results of surveys of students, graduates and employers	Annex 8. Analysis of the results of surveys of students, graduates and employers.pdf	8.pielikums. Studējošo, absolventu un darba devēju aptauju rezultātu analīze.pdf
II - Description of the Study Field - 2.3. Resources and Provision of the Study Field		
Basic information on the teaching staff involved in the implementation of the study field	Annex 9. General information about academic staff.xlsx	9.pielikums. Pamatinformācija par mācībspēkiem.xlsx
Biographies of the teaching staff members (Curriculum Vitae in Europass format)	Annex 10. Academic staff CV.zip	10.pielikums. Mācībspēku CV.zip
A statement signed by the rector, director, head of the study programme or field that the knowledge of the state language of the teaching staff involved in the implementation of the study programmes within the study field complies with the regulations on the state language knowledge and state language proficiency test for professional and official duties.	Annex 11. Confirmation - knowledge of the state language.edoc	11.pielikums. Apliecinājums - valsts valodas zināšanas.edoc
A statement of the higher education institution/ college on the respective foreign language skills of the teaching staff involved in the implementation of the study programme at least at B2 level according to the European Language Proficiency Assessment levels (level distribution is available on the website www.europass.lv, if the study programme or part thereof is implemented)	Annex 12. Confirmation - knowledge of the foreign language.edoc	12.pielikums. Apliecinājums - svešvalodu prasme.edoc
II - Description of the Study Field - 2.4. Scientific Research and Artistic Creation		
Summary of quantitative data on scientific and/ or applied research and / or artistic creation activities corresponding to the study field in the reporting period.	Annex 13. Summary of quantitative data of research and related activities.xlsx	13.pielikums. Kvantitatīvo datu apkopojums par zinātnisko pētniecību un māksliniecisko jaunradi.xlsx
List of the publications, patents, and artistic creations of the teaching staff over the reporting period.	Annex 14. List of academic staff publications.pdf	14.pielikums. Mācībspēku publikāciju saraksts.pdf
II - Description of the Study Field - 2.5. Cooperation and Internationalisation		
List of cooperation agreements, including the agreements for providing internship	Annex 15. List of cooperation agreements.pdf	15.pielikums. Sadarbības līgumu saraksts.pdf
Statistical data on the teaching staff and the students from abroad	Annex 16. Statistical data on foreign academic staff and students.pdf	16.pielikums. Statistikas dati par ārvalstu mācībspēkiem un studējošajiem.pdf
Statistical data on the incoming and outgoing mobility of students (by specifying the study programmes)	Annex 17. Statistical data about students mobility.pdf	17.pielikums. Statistikas dati par studējošo mobilitāti (1).pdf
Statistical data on the incoming and outgoing mobility of the teaching staff	Annex 18. Statistical data about academic staff mobility.pdf	18.pielikums. Statistikas dati par akadēmiskā personāla mobilitāti.pdf
II - Description of the Study Field - 2.6. Implementation of the Recommendations Received During the Previous Assessment Procedures		
Report on the implementation of the recommendations received both in the previous accreditation and in the licensing and/ or change assessment procedures and/ or the procedures for the inclusion of the study programme on the accreditation form of the study field.	Annex 19. Review of implemented recommendations.pdf	19.pielikums. Rekomendāciju izpildes pārskats.pdf
An application for the evaluation of the study field signed with a secure electronic signature	01000-2.2.1-e_142.edoc	01000-2.2.1-e_142.edoc
III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme		
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period		
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with 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 or the requirements for professional qualification (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		
The 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 organisation of the internship of the students (if applicable)		
III - Description of the Study Programme - 3.4. Teaching Staff		
Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		

Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		
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Other annexes

Name of document	Document
RTU IT sistemu saskarnes	RTU IT sistemu saskarnes.zip
Screenshots of RTU IT systems	Screenshots of RTU IT systems.zip
Rīgas Tehniskās universitātes studējošo priekšlikumu un sūdzību iesniegšanas un izskatīšanas kārtība	RTU_studeoso_priek_un_sudz_iesn_un_izsk_kart (2).pdf
Procedure for Submission and Examination of	RTU_proposals_complaints.pdf
Finansējuma sadales un izlietojuma metodika RTU struktūrvienībām 2022./2023. akadēmiskajā gadā	Finansējuma_sadales_un_izlietojuma_metodika_RTU_struktūrvienībām_2022.2023.akadēmiskajā_gadā.docx
Rīkojums par Finansējuma sadales un izlietojuma metodika RTU struktūrvienībām 2022./2023. akadēmiskajā gadā	199783.pdf
2.3.1.pielikums. Pamatinformācija par bibliotēkas nodrošinājumu studējošajiem	2.3.1.pielikums. Pamatinformācija par bibliotēkas nodrošinājumu studējošajiem.pdf
Annex 2.3.1. Basic information about library provision for students	Annex 2.3.1. Basic information about library provision for students.pdf
20.pielikums Studiju virziens "Transporta pakalpojumi" komisija	Studiju virziens_sastavs.pdf
Annex 20. Study field "Transport services"	Studiju virziens_sastavs_EN.pdf
Programmas direktora amata apraksts.pdf	Programmas direktora amata apraksts.pdf
Job description for the Head of the Program.pdf	Job description for the Head of the Program.pdf
Rīkojums par KP uz ECTS.pdf_ saņemts 12.08.2024	Rīkojums par KP uz ECTS.pdf

Logistics (41840)

Study field	<i>Transport Services</i>
ProcedureStudyProgram.Name	<i>Logistics</i>
Education classification code	<i>41840</i>
Type of the study programme	<i>First level professional higher education study programme</i>
Name of the study programme director	<i>Ingūna</i>
Surname of the study programme director	<i>Jurgelāne-Kaldava</i>
E-mail of the study programme director	<i>Inguna.Jurgelane-Kaldava@rtu.lv</i>
Title of the study programme director	<i>Dr.oec.</i>
Phone of the study programme director	<i>+371 67089553</i>
Goal of the study programme	<i>The aim of the study programme is to prepare students for employment in the logistics industry in accordance with the profession standard "Logistics Specialist," as well as to develop research skills to create specialists capable of ensuring the fundamental logistics processes, as well as to create an understanding of how logistics affects the environment and responsible management.</i>
Tasks of the study programme	<p><i>The tasks of study programme:</i></p> <ul style="list-style-type: none"> <i>- to provide competitive education in the field of logistics in accordance with professional standards and international standards;</i> <i>- to ensure the acquisition of up-to-date general knowledge, which would allow graduates to get involved in solving the economic activity issues of the entire national economy, a specific institution or company;</i> <i>- to promote interest in further education and improvement, supplementing academic and professional knowledge;</i> <i>- to develop economical thinking thus encouraging to supplement knowledge gained independently;</i> <i>- to design the study process in a way to develop the students' intelligence, promote their personal development, promote the use of intellectual abilities in practical activities;</i> <i>- to develop competences that meets the requirements of the labour market;</i> <i>- to create an opportunity for students to obtain a qualification in close connection with their future work, to raise their qualifications, and if necessary, to requalify;</i> <i>- to promote students' analytical abilities, develop skills in formulating professional problems and solving related tasks, developing projects;</i> <i>- to stimulate the student's development into a positive, modern, responsible and capable personality who knows how to act independently and make decisions independently; stimulate students' interest in the processes taking place in society</i>

Results of the study programme	<p><i>The study programme graduates are:</i></p> <ul style="list-style-type: none"> - <i>able to demonstrate knowledge and understanding of facts, theories, regularities and technologies appropriate to the field of logistics;</i> - <i>able to perform practical tasks in the profession of a logistics specialist, show skills that allow to find creative solutions to problems related to logistics, discuss and reasonably discuss practical issues and solutions;</i> - <i>able to evaluate and improve one's own and other people's activities, work in cooperation with others, plan and organize work in order to perform specific tasks in accordance with the profession standard;</i> - <i>able to carry out or monitor such work activities in which unpredictable changes are possible;</i> - <i>able to formulate, describe and analyse practical problems;</i> - <i>able to select the necessary information and use it to solve clearly defined problems,</i> - <i>able to participate in the development of the field of logistics, to show that he/she understands the place of the Logistics Specialist in a wider social context.</i>
Final examination upon the completion of the study programme	<i>Qualification work.</i>

Study programme forms

Full time studies - 2 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	2
Duration in month	0
Language	<i>latvian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	-
Qualification to be obtained (in english)	<i>Logistics specialist</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Part time extramural studies - 2 years, 5 months - latvian

Study type and form	<i>Part time extramural studies</i>
Duration in full years	2
Duration in month	5
Language	<i>latvian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	-
Qualification to be obtained (in english)	<i>Logistics specialist</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Part time studies - 2 years, 5 months - latvian

Study type and form	<i>Part time studies</i>
Duration in full years	2
Duration in month	5
Language	<i>latvian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	-
Qualification to be obtained (in english)	<i>Logistics specialist</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

3.1. Indicators Describing the Study Programme

3.1.1. Description and analysis of changes in the parameters of the study programme made since the issuance of the previous accreditation form of the study field or issuance of the study programme license, if the study programme is not included on the accreditation form of the study field, including changes planned within the evaluation procedure of the study field evaluation procedure.

Changes have been made in the content and planned implementation of the study program in accordance with the transition to ECTS credit points in accordance with RTU order No. 01000-1.2-e/1 of January 8, 2024 "On the transition to the volume of credit points, in accordance with the European credit transfer and accumulation system (ECTS) RTU" (only in Latvian). In accordance with the Law on Universities, RTU determines that 1 (one) credit point corresponds to 26 - 28 hours of study work. Students have 40 hours of study work in one working week. In short-cycle studies, no less than 50% of the amount of study work consists of contact hours.

Since the licensing of the study program, changes have been made to the Study Program. In order to facilitate the planning process of lectures, the list of professional specialization study courses (part B1) has been supplemented with study courses *IĀS411 International Marketing* in the amount of 2 CP* / 3 CP, as well as the study course *IUV443 Legal Basis of Entrepreneurship* in the amount of 2 CP* / 3 CP.

CP* - credit points in accordance with the legal norms of the Law of Higher Education, which were in force until October 10, 2022.

3.1.2. Analysis and assessment of the study programme compliance with the study field. Analysis of the interrelation between the code of the study programme, the degree, professional qualification/professional qualification requirements or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements. Description of the duration and scope of the implementation of the study programme (including different options of the study programme implementation) and evaluation of its usefulness.

The main tasks of the study program: to provide competitive education in the field of logistics that meets the profession standard and international standards, to ensure the acquisition of modern general knowledge that would allow graduates to engage in solving issues of economic activity of the entire national economy, a particular institution or enterprise, to promote interest in further education and improvement, to supplement academic and professional knowledge by developing economic thinking, to encourage to independently improve their knowledge, to shape the study process in such a way as to develop students' intellect, promote their personal development, promote the use of intellectual abilities in practical activities, develop competences corresponding to the requirements of the labour market, create an opportunity for students to obtain a qualification in close connection with their future work, improve their qualifications, if necessary

also retrain, promote students' analytical abilities, develop skills in professional problems formulating and solving related tasks, developing projects, stimulating the development of the student into a positive, modern, responsible and capable of acting personality, who knows how to act independently and independently make decisions, to stimulate students' interest in the processes taking place in society.

The specific goals and objectives of the program are set in accordance with the strategic goal and main tasks in cooperation with specialists and employers in the transport and logistics sector.

The study program is designed to prepare logistics specialists in the field of logistics and transport economics, in accordance with the requirements of the profession standard. The greatest emphasis in the study process is aimed precisely at the improvement of professional and practical competencies, based on theoretical knowledge and specifics of the field. Both academic staff of the university and representatives of industries and highly qualified practitioners of the field, whose main work and practical experience have been formed in companies and institutions in the field, are involved in the implementation of the study process. Students' practical work skills are developed and improved not only by developing a project, study papers and solving various practical tasks, but also by spending four months in internships in companies in the industry. Students are also offered and provided with study tours to industry companies both in Latvia and abroad.

The aim of the study programme is to prepare students for employment in the logistics industry in accordance with the profession standard "Logistics Specialist," (only in Latvian) as well as to develop research skills to create specialists capable of ensuring the fundamental logistics processes, as well as to create an understanding of how logistics affects the environment and responsible management.

The tasks of study programme are:

- to provide competitive education in the field of logistics in accordance with professional standards and international standards;
- to ensure the acquisition of up-to-date general knowledge, which would allow graduates to get involved in solving the economic activity issues of the entire national economy, a specific institution or company;
- to promote interest in further education and improvement, supplementing academic and professional knowledge;
- to develop economical thinking thus encouraging to supplement knowledge gained independently;
- to design the study process in a way to develop the students' intelligence, promote their personal development, promote the use of intellectual abilities in practical activities;
- to develop competences that meets the requirements of the labour market;
- to create an opportunity for students to obtain a qualification in close connection with their future work,
- to raise their qualifications, and if necessary, to requalify;
- to promote students' analytical abilities, develop skills in formulating professional problems and solving related tasks, developing projects;
- to stimulate the student's development into a positive, modern, responsible and capable personality who knows how to act independently and make decisions independently; stimulate students' interest in the processes taking place in society.

Measurements of the results of the performance of tasks are the results of students' studies. The acquisition of the study programme is completed by the state qualification paper, which is defended and evaluated on a ten-point scale. The criteria for evaluating qualification papers are:

- systematization, strengthening and expansion of theoretical knowledge and experience;
- independent study of literature and other informative sources, t.sk. Foreign languages;
- the theoretical framework of the tasks and the skill of solving the problem under study, which includes separate and complex summaries and elements of novelty;
- analysis of a topical business problem;
- development of practical solutions in the form of recommendations and proposals;
- development and strengthening of the skills of conducting independent applied research and the ability to defend the obtained practical results.

Results to be achieved by the study programme

The planned results to be achieved for the acquisition of the study programme are defined *in accordance with the profession standard "Logistics Specialist"* and LQF level 5, at the level of knowledge during the studies the student must acquire the knowledge, skills and attitudes necessary for the fulfilment of the basic tasks of professional activity in several areas. The student is able to demonstrate comprehensive knowledge and understanding of facts, theories, regularities and technologies appropriate to the field of logistics.

At the skill level, based on an analytical approach, he is able to perform practical tasks in the profession of a logistics specialist, show skills that allow to find creative solutions to problems related to logistics, discuss and argue practical issues and solutions in the profession of a logistics specialist with colleagues, clients and management, with a corresponding degree of autonomy to learn further, improving their competences. The student is also able to evaluate and improve his or her own and other people's activities, work in cooperation with others, plan and organize work in order to perform specific tasks in the profession of a logistics specialist, perform or monitor such work activities in which unpredictable changes are possible.

In turn, *at the level of competence*, he is able to formulate, describe and analyze practical problems in the profession of a logistics specialist, select the necessary information and use it to solve clearly defined problems, participate in the development of the field of logistics, show that he understands the place of a logistics specialist in a wider social context.

Interconnectedness and reach of the goal, tasks and results to be achieved

First of all, the study process will involve both previously acclaimed teachers with rich pedagogical work experience, as well as teaching staff who are highly regarded specialists and scientists of their field, who, working in one team, will allow to acquire both experience-based knowledge and skills in a balanced way, as well as the most current in the field of logistics. Secondly, the study process will be implemented in close connection with the requirements of the labour market, which will be ensured in cooperation with the industry in the implementation of certain sections of the Study Programme: internship, final examination, as well as practical works to be implemented within the framework of individual study courses. Thirdly, all study programmes in general and the objectives, tasks and expected results of individual study courses (acquired knowledge, skills and competences) are closely related to each other, ensuring a high degree of their reach.

The development of the study programme is based on the structure of qualifications in the transport and logistics sector agreed by PINTSA with the profession of a logistics specialist of the LQF level 5 included in it and the profession standard "Logistics Specialist", approved by PINTSA at the meeting of 10 February 2021 (minutes No. 2)(only in Latvian).

The objectives, tasks and planned study results of the study programme are interrelated and achievable.

Admission conditions

Upon graduation, the student acquires a first-level (short cycle) professional higher education and qualification "Logistics Specialist".

Applicants with general secondary education or 4-year vocational secondary education, or with first level (short cycle) professional higher education in business and management are enrolled in the first level (short cycle) professional higher education study programme. Admission of applicants to the full-time and part-time undergraduate program takes place according to the results of the centralized examinations (CE) in mathematics, Latvian and a foreign language and annual marks in certain subjects in the secondary education document.

A sample of the diploma to be issued for the acquisition of the study programme and its annexes is attached (*Annex 3.1.1. Diploma sample* and *Annex 3.1.2. Diploma Supplement sample*).

Opportunity to continue studies

Upon completion of studies, the short cycle (first level) professional higher education is obtained, as well as the qualification of a logistics specialist, which provides an opportunity to continue studies in the RTU professional bachelor's study programme "Business Logistics" (full-time - in the 5th semester of studies, part-time extramural - in the 6th semester) for obtaining the qualification of a professional bachelor's degree in business logistics and a logistics manager qualification (level 5 professional qualification or LQF level 6). This ensures the vertical hierarchy of educational attainment.

Equally there is also the right to continue studies in other bachelor's or 2nd level higher vocational education study programmes, as well as credit points transfer is possible. Upon graduation student acquires short cycle (first level) professional higher education and qualification "Logistics specialist".

3.1.3. Economic and/ or social substantiation of the study programme, analysis of graduates' employment.

The first level (short cycle) professional higher education study programme "Logistics" (hereinafter referred to as the Study Programme) is being implemented at RTU from **February 2023**. Graduates of the study program will receive a first-level (short cycle) professional higher education and the qualification of a logistics specialist.

RTU's Governance and Security Institute aims to prepare internationally recognized specialists who are necessary for the national economy of the industry, qualified and competitive, to promote the development of research in existing and new scientific directions and, in particular, to promote practical solutions to problems important for the industry in cooperation with entrepreneurs.

In order to maintain and develop the competitiveness of Latvia in the field of logistics as a whole, it is necessary to maintain and improve the 5th level education of the Latvian Qualifications Framework (LQF 5), which prepares both the employees necessary for industries and future scientists.

Description of the future employment

According to the profession standard, developed by compiling the recommendations of employers in the industry, the logistics specialist at the operational level plans and organizes the processes of moving and storing goods and cargo and other logistics processes in the enterprise, evaluates the

shortcomings of the company's logistics processes, analyzes the logistics costs and statistics of the organization, organizes the storage and movement of goods in the warehouse, plans resources for ensuring warehouse processes, uses warehouse accounting systems, organizes work with suppliers, control the level of inventories of the enterprise, ensure the internal flow of production materials, plan the route and/or select the carrier, calculate transportation costs, prepare documents accompanying transportation, maintain relations with the parties involved in transportation, carry out cost control.

The logistics specialist works independently or under the authority of the logistics manager in passenger and freight transport, freight forwarding, manufacturing, wholesale / retail companies, warehouses, port terminals and other organizations whose activities are related to the transport and / or logistics industry and / or production. A logistics specialist leads a small group of logisticians to perform individual functions.

Graduates of the study program will work in companies engaged in logistics, international and domestic cargo or passenger transportation, wholesale, retail, production and provision of services, as well as in state and municipal institutions whose activities are related to the transport and/ or logistics sector or provide for the management and organization of logistics services.

The Ministry of Economics plans that the average growth of the transport and storage sector from 2020-2027 will be 1.5% per annum, and from 2028 to 2040 even 2.5% per annum. Consequently, the demand for middle and high-level logistics workers in the labor market is also predicted.

According to the Ministry of Economics, the analysis of the workforce shows that in the group of educational programs "Transport Services" in 2027 there will be a shortage of 1500 specialists with higher education. This is due both to changes in the economy and to the fact that of the economically active population employed in the field of "Transport Services", 43% are over 50 years old.

It is noted that in both the medium and long term, the demand for labour in the transport and logistics sector will continue to restructure in favour of higher-skilled specialties. Also, an increase in the demand for labor is expected both for specialists with higher education, as well as for vocational secondary and vocational education. The demand for employees with secondary general education will decrease. In 2019, more than 1/3 (34%) of those employed in professions in the transport and logistics sector had only secondary general education.

An analysis of the labor market of the Ministry of Economics until 2040 indicates that the growth of the transport and storage sector will be largely facilitated by the development of the air transport and road transport sectors. In turn, in the transit sector, the dynamics will be slower, which will be determined by the need to look for new types of cargo and delivery routes in order to replace the already long-decreasing volumes of Russian oil products and coal cargoes.

The most important professional knowledge, skills and competences that employers have additionally indicated, what is expected of specialists who have acquired professional higher education working in the professions of the industry: the ability to follow and analyze world trends in the industry, identification of new markets, attraction of new customers and development and introduction of new products, to develop proposals for the development of the company, modelling, designing and making design changes for products and services.

3.1.4. 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 into different study forms, types, and

languages.

The implementation of the study programme was started in February 2023 by enrolling four students in part-time studies, the implementation of the study programme in full-time studies started in September 2023 by enrolling fifteen students. The study programme is implemented as a paid study programme, there are no state-funded budget places in the study programme. Since the study programme is implemented only in Latvian and its implementation was started relatively recently, it is not possible to provide an assessment of the dynamics of the number of students and its changes, as well as the reasons for drop-out (see Annex 5. Statistics on students in the reporting period).

The 1st level professional higher education study programme "Logistics" is implemented only in Latvian, however, separate study courses in English are also included in the study process.

3.1.5. Substantiation of the development of the joint study programme and description and evaluation of the choice of partner universities, including information on the development and implementation of the joint study programme (if applicable).

Not applicable.

3.2. The Content of Studies and Implementation Thereof

3.2.1. Analysis of the content of the study programme. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators with the aims of the study course/ module and the aims and intended outcomes of the study programme. Assessment of the relevance of the content of the study courses/ modules and compliance with the needs of the relevant industry, labour market and with the trends in science on how and whether the content of the study courses/ modules is updated in line with the development trends of the relevant industry, labour market, and science.

The volume of the 1st level professional higher education study programme is 80 CP* / 120 CP, which consists of study courses (56 CP* / 84 CP), internship (16 CP* / 24 CP) and State examination (8 CP* / 12 CP), a part of which is the development and defence of a qualification paper. The selection of study courses of the 1st level professional higher education programme, the amount and content of study courses, as well as the content of the internship have been developed in accordance with the professional degree and qualification to be obtained in accordance with the profession standard of a logistics specialist.

During his or her studies, each student develops and defends at least one study paper (study project). During the development of study projects, students conduct research on the Transport and

Logistics sector, analyze enterprises in the sector, their activities, make economic calculations for improving the performance of enterprises.

In accordance with industry trends, as well as students' recommendations for improving and improving the content of the program, almost every year changes are made to the content of study courses and the content of the program.

Annex:

- a table on the compliance of the study programme with the State Education Standard (see Annex 6);
- a table on the compliance of the qualification to be obtained in the study programme with the profession standard or the requirements for professional qualification (if the profession does not require the development of a profession standard) (see Annex 7)
- the study programme plan (for each type and form of implementation of the study programme) (see Annex 9);
- descriptions of study courses (modules) of the study programme (see Annex 10);
- mapping of study courses for achieving the study results of the study programme (see Annex 8).

The information included in the study courses and to be learned in accordance with the objectives of the study program forms the professional competence of students for work in the field of logistics in accordance with the professional standard "Logistics specialist", as well as research skills to prepare specialists who are able to ensure the basic processes of logistics and understanding of the impact of logistics on the environment and responsible management . In accordance with the needs of the industry and the labor market, graduates of the study program are able to perform practical tasks in the profession of a logistics specialist, demonstrate skills that allow finding creative solutions to logistics-related problems, discuss and reasonably discuss practical issues and solutions, perform or supervise such work activities where unpredictable changes and is able to participate in the development of the field of logistics, showing that he understands the place of a Logistics specialist in a wider social context.

CP* - credit points in accordance with the legal norms of the Law of Higher Education, which were in force until October 10, 2022.

3.2.2. In the 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. In the 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 (if applicable).

Not applicable.

3.2.3. Assessment of the study programme including the study course/ module implementation methods by indicating what the methods are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. In the case of a joint study programme, or in case the study programme is implemented in a foreign language or in the form of distance learning, describe in detail

the methods used to deliver such a study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

The didactic concept of the study program is based on the use of the latest and most advanced teaching methods. It provides for the development of the study content and the organization of studies, which ensures sequential and in-depth acquisition of the knowledge provided for in the study program and is oriented towards solving real practical examples and problems, to an in-depth study of the main theoretical and practical issues of business logistics. It includes methods stimulating the acquisition of knowledge, as well as interactive cooperation of students, teachers and practice leaders, allows for free discussion in an intercultural environment. Modern study methods such as group work, case studies, seminars, discussions, study tours to industry companies are used in the implementation of the program in order to acquire and/or consolidate the study substance in an appropriate working environment, explanation of lectures using PowerPoint or other types of presentations.

In addition to theoretical classes in the auditoriums, practical study tours are organized for students to the largest companies and organizations in the industry both in Latvia and abroad. Study tours are created both for a more in-depth understanding of individual topics within the framework of a particular study course, as well as as thematic study tours.

So, for example, in the 2022/2023 academic year, students had the opportunity to go on study tours to such companies as "Rīgas Satiksme", JSC "AirBaltic Corporation", SIA Itella Logistic", SIA "Maxima Latvija" and "Freeport of Riga".

By organizing study tours and study visits, the connection of the content of the study program with the specifics of the industry is ensured, students acquire not only theoretical knowledge, but are able to link them with everyday situations in logistics companies, analyze problems and argue their point of view.

RTU's interactive e-learning environment on the portal <https://estudijas.rtu.lv/my/index.php?lang=en>, which is built on the Moodle platform, which is regularly used by students, academic staff and guest lecturers in the study programme, is used in the implementation of the programme. According to RTU's Order No. 01000-1.2-e/1 of January 8, 2024 on "On the transfer to the amount of credit points, according to the European Credit Transfer and Accumulation System (ECTS) RTU" (only in Latvian) full-time face-to-face study type corresponds to 40 KP (60 ECTS) in the academic year and the student's work volume of 40 academic hours in one study week, which constitutes 1 CP (1.5 ECTS). Duration of studies for full-time studies 2 years; 2 years and 5 months for part-time studies. The portal provides the student with access to all up-to-date information during the study process. It contains current study courses (annotations, requirements for successful completion of the study course, lecture plan, lecture and practical lesson materials, necessary literature, etc.), information on the student's success and completed study courses, current reports, library information, access to teaching and scientific literature and databases, e-mail, etc. In the e-learning environment, the teaching staff places various tests and tasks for self-control of the student's knowledge, as well as the system allows for the possibility of creating various intermediate tests and tests. Within the framework of this portal, it is possible to communicate with every teaching staff, but within the framework of current courses also with fellow students. Discussion forums have been created on the portal, regular surveys are conducted on the content, quality and presentations of the teaching staff who implement the study course, and other audio/video and technical aids are available.

In academic matters, the individual approach is ensured in accordance with the methodology "On guidelines for the planning of the work of teaching staff" approved by the RTU rector's order, which stipulates that the teaching staff must provide consultations to every 25 students in the flow of lectures in the amount of 15% of the amount of lecture hours. In addition, separate consultation hours are provided for the management of study papers and projects, internship work and final work. Before exams, pre-examination consultations are organized. If necessary, students can directly contact the teaching staff outside the consultation period by sending current questions in the form of messages or on the forum of the corresponding study course in the ORTUS system or ask them by e-mail.

At the end of each semester, the teaching staff of the study courses submits the course evaluations in the record-keeping, as well as records them in the ORTUS system in the particular study course. Student study results are analyzed both at course group meetings with students and at meetings organized by the study program administration.

The results of the assessment of students' knowledge twice a year (at the end of each semester) are discussed at a meeting of the department, they are compiled and evaluated by the administration of the study program, and they serve as a basis for further improvement of the study process. Discussion and analysis of study results takes place in cooperation with the teaching staff involved in the study programme.

The description of each study course contains a section on the skills and competences that the student must acquire in the respective study course (see the Register of study courses). Problem-solving skills are developed in situational analysis tasks, study projects, which provide for independent, individual activity of students, in accordance with the latest directions of logistics development in the world and the European Union, as well as taking into account the status and peculiarities of the transit country of Latvia. In the form of a dialogue, students are allowed to express their opinion, share their experience and, on the basis of examples, explain the problem of the topic themselves, understand the essence of the course.

On May 30, 2022, the RTU Senate approved a new version of the "Regulations for the Evaluation of Study Results", which is also included in the RTU Study Regulations. According to the by-laws, intermediate examinations (tests, tests, independent work, etc.) are organized in each study course in order to ensure systematic control of the acquired knowledge. The by-laws also prescribe the procedures for taking examinations for improving performance, the rules for taking examinations and examinations, the conditions and procedures for taking academic debts, the duties of teaching staff in the assessment of results, the rights and obligations of students in examinations, as well as the procedures for submitting and examining appeals. The results and evaluations of the intermediate examinations are published in the ORTUS system at the corresponding study course. Errors are analyzed and students are informed about them. Error analysis allows students to better understand unclear places and eliminates lack of knowledge or misunderstanding in certain issues, which increases students' motivation to achieve ever better results.

Students can implement their participation in the improvement of the study process directly – by expressing their wishes to the direct lecturer of the study course, the program director, the head of the department or with the help of the student self-government, whose representatives are in the composition of the Council of the Faculty of Engineering Economics and Management, in the committees of the RTU Senate and RTU Senate, as well as in the RTU Academic Meeting.

In administrative matters, students are provided with the opportunity to meet with the management of the study program at the reception times in order to solve individual issues. In problem situations, students are invited to an interview with the management of the study programme. Information of an operational nature is posted on the website, messages are sent to

students in the ORTUS system, e-mail and telephone are used for individual communication. Student meetings with the director of study programme are regularly organized, providing an opportunity for students to discuss and discuss current issues. In this way, maximum quality of the study process is achieved in response to student information.

Of particular importance are student surveys and course meetings, which are regularly organized 2 times during the study year and objectively show students' opinion both on a specific study course and on the organization of the study process. Also, in the electronic environment of RTU ORTUS at the end of each semester, surveys are created for students, in which students express their opinion on the implementation of a particular study course, the quality of the lecturer's work is evaluated. The results of the surveys are compiled and discussed in the administration of the study program and in the meetings of the Governance and Security Institute, and by necessity in the FEEM Council.

Thus, in the implementation of the entire study process, the principles of student-centered education are taken into account.

1. Involvement of students in the study process and content development

RTU has developed procedures that provide students with feedback on the quality of the study process (questionnaires, regular student meetings with the program director, etc.) Thus, students have opportunities to influence their study process. Students of the programme are regularly involved in the quality assessment of study programmes, participate in decision-making bodies and advisory bodies, as well as are involved in writing a self-assessment report.

2. Study results

The study course evaluations of the program and the number of credits are related to the study results. Students are informed about the results of each study course. Lecturers associate the results of the course with the results of the study program, as well as argue the need for mastering the information of this course for mastering the profession of logistics manager.

3. Mobility

The mobility resources of the 1st level professional higher education study programme "Logistics" are used to improve the pedagogical process of the higher education institution, because the student-centered education approach is based on a strong pedagogical process. The teaching staff of foreign universities is involved in the implementation of the study programme, thus not only the students, but also the teaching staff involved in the implementation of the programme, adopting good practices that visiting lecturers can share. The teaching staff of foreign universities are involved in the implementation of the study programme, for example during the previous academic years guest lectures on maritime logistics were given by the teaching staff of the Lithuanian Maritime Academy Rima Mickiene and Elena Valioniene, professors Cristoph Laroque and Matias Richter of the University of Zwickau as well as lecturer of Klaipeda University Davids Shakarishvili.

4. Social dimension

When students study in this program, the study process is flexible enough to allow them to reconcile work/family life with their studies. Also, students of the day department have the opportunity to change the form of study acquisition to extramural studies in order to combine study and work. As a positive point, it should be mentioned that the premises of the RTU library are available to students around the clock and also on weekends.

5. Teaching and learning methods

In the process of implementing the program, various teaching and learning methods are used. For example, study projects are developed, group work takes place, some study courses use a method

that allows students to evaluate each other and learn from each other. Study tours and guest lectures are also regularly held. Students have the opportunity to receive individual consultations with academic staff, including e-communication, Skype, etc.

6. Learning environment

During the implementation of the program, there is a collaboration between librarians and academic staff with the aim of improving the teaching and learning process. In the first year of study, students are introduced to the resources and databases available in the library. Also, both faculty and students involved in the program are provided with access to research and learning in suitable premises with appropriate equipment. Both students and faculty can use the Bloomberg lab with a variety of databases in the process of developing research papers.

7. Development of competences of academic staff

The academic staff involved in the program are provided with regular opportunities for the development of methodological and didactic skills. The process of developing the competences of academic staff also includes discussions on the use of teaching and learning methods, incl. innovative teaching methods. Within the framework of the international project "Development of professional logistics education at the university level of the Central Baltic States", lecturers are involved in the development of new study courses (for example, organization of courses International Procurement, Logistics of the Timber Industry, etc.), share their experience in the use of study methods, materials and programs in the training of logistics managers with representatives of universities in Sweden, Finland and Estonia. Within the framework of the project, new logistics modules are being prepared, which will be able to be implemented as part of courses at the international level for each of the countries involved in the project (Sweden, Finland, Estonia, Latvia).

8. Extracurricular activities of students

The management of the program supports the activities of the student self-government and encourages students to get involved in it, thus allowing students to improve their independence, providing students with the opportunity to implement ideas, as well as opportunities to additionally study outside of lectures. Students' wishes to develop their ideas in project competitions, business incubators, etc. are also supported.

Every student in the program is offered opportunities to engage in extracurricular activities (sports teams, dance groups, choirs, debate associations, etc.). All this indicates an active extra-curricular life and extra-curricular opportunities for students.

In the study program, students are also involved in scientific work and research on current topics in the field, participating in both local and international conferences. Every year, the Student Scientific Conference is organized in 2 parts – spring semester and autumn semester. After the conferences, the best student research is compiled and published or placed in the electronic version - theses collections.

3.2.4. If the study programme envisages an internship, describe the internship opportunities offered to students, provision and work organization, including whether the higher education institution/ college helps students to find an internship place. If the study programme is implemented in a foreign language, provide information on how internship opportunities are provided in a foreign language, including for foreign students. To provide analysis and evaluation of the connection of the tasks set for

students during the internship included in the study programme with the learning outcomes of the study programme (if applicable).

For the study programme has developed "Methodological guidelines for the 1st level professional higher education study programme "Logistics" (Annex 3.2.1) (in Latvian), which describe the t.sk of the work to be submitted during the studies. practices, the most important "steps", as well as instructions for the development and defense of works.

The internship of the study program is planned - in the amount of 16 CP* / 24 CP.

The higher education institution shall enter into an internship contract with the employer and the student. When determining the goals and objectives of the internship, the content of the internship will include the student's acquaintance with the management structure and principles of the relevant internship organization, the specifics of the industry, etc. Representatives of the organizations with which the agreement on the implementation of the internship has been concluded will participate in the definition of the goals and objectives of the internship, as well as in the evaluation of the internship. The goal of the internship is achieved by the student on the basis of the acquired knowledge, skills, competence.

The internship has certain tasks:

- to develop the student's ability to work independently in the professional environment of the field of transport and logistics;
- to develop the student's skills to make economically justified, practical decisions for solving problems and/or topical issues;
- to develop and strengthen the student's communication abilities, t.sk. the ability to publicly defend their point of view and cooperate with the Company's employees and other persons related to the practice.

The purpose and tasks of the internship are closely related to the duties and tasks specified in the profession standard, which ensures the application of theoretical knowledge in practice. The internship manager at the place of internship provides feedback (fills in a feedback) in which the assessment of the trainee's knowledge, theoretical preparedness, communication skills, etc. is indicated. Thus, continuous close ties with representatives of the industry are maintained, thus finding an opportunity to develop and improve the Study Programme even more qualitatively and in accordance with the requirements of the labour market. For each of the internships, the student prepares a practice report, which is presented and defended in the department's internship defence committee.

In the decision of the Senate "On the procedure for organizing internships at RTU", revised in 2019 is mentioned that students are assisted by an internship coordinator within the department. If additional help is needed, it is possible to turn to the Career Support and Services Department, where a career counselor helps students in finding and reaching internships, as well as promotes the development of career management skills through various measures that can ensure successful results in the internship process. Once a year, the Career Support and Services Department organizes RTU Career Day, where students also have the opportunity to meet with representatives of companies in person or remotely and communicate about future opportunities. More about the event and participants of previous years: <https://www.rtu.lv/lv/studentuserviss/karjeras-centrs-ssc/karjeras-diena>. In 2022, due to the pandemic, the event took place in a virtual environment. In 2023, the event was in person, in the exhibition hall.

An additional resource that has been offered since 2015 is a website where companies are invited to place vacancies that are relevant for RTU students (<https://ekarjera.rtu.lv/>). Students have the opportunity to log in with the university's username and follow the internship and later job opportunities in their field.

An additional support in the promotion of practical skills is the RTU Development Fund (<https://www.rtu.lv/lv/attistibasfonds>). During the year, several hundred practical skills promotion competitions are offered, which are organized in cooperation with companies and where students have the opportunity to acquire practical skills.

Every year, the university concludes cooperation agreements with companies and organizations (for the draft agreement, see the file of the list of internal regulatory enactments which could be found in the Annexes of study field "Transport Services"), where it agrees on the provision of internships for students

The by-law on the procedures for the organisation of internships is attached in *Annex 11. Description of the organisation of the internship of the students*.

CP* - credit points in accordance with the legal norms of the Law of Higher Education, which were in force until October 10, 2022.

3.2.5. Evaluation and description of the promotion opportunities and the promotion process provided to the students of the doctoral study programme (if applicable).

Not applicable.

3.2.6. 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 marks of the final theses.

the qualification to be obtained, which means that they write about various logistics processes, their improvement, which is necessarily justified by the economic calculations section. In the qualification papers, the topicality of the topic is indicated, the field under study is analyzed.

Qualification papers are reviewed only by representatives of the industry. Leading specialists in the industry, experts with extensive work experience are always involved in the commissions for the defense of qualification works. The commission consists of 6-7 members of the commission, of which 4-5 are representatives of the industry (including the chairman of the commission) and 1-2 - employees involved in the implementation of the study program. Thus, the involvement of employers in the study process is ensured, which directly implies a regular connection of the study program with the labor market. Leading employees of SIA RX-Logistics, Procter & Gamble Latvia SIA, GEFCO Baltic SIA, SIA Fineks MT, Itella Logistics SIA and other institutions and companies have participated in the committees defending the final works of the structural unit implementing the study programme.

Since the implementation of the study programme was started in February 2023, it is currently not possible to provide an assessment of the topics of students' final works and their topicality.

3.3. Resources and Provision of the Study Programme

3.3.1. 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.

The available resources and provision correspond to the conditions for the implementation of the study programme and promote the achievement of study results.

The program "Logistics" is implemented as a paid program since February 2023, due to this reason the financing of the programme is not stable yet. Data on funding are presented in the table below (see table 3.1).

Table 3.1

Funding of the study programme

Academic year	Grant for the program (EUR)	Tuition fees for the program (EUR)	Total funding for the programme (EUR)	Cost per 1 student (EUR)
2022/2023	0	4 800	4 800	1 728.68
2023/2024	0	23 035	23 035	1 728.68

The study program is implemented with the funds of student fees. The state budget funds for the implementation of the study programme are not yet provided. The provision of budget places would be positive, which would also contribute to an increase in the number of students in this programme.

The following material base is used in the implementation of the program:

- audiences (both for lectures and practical classes);
- computer classes;
- methodical cabinet;
- RTU Scientific Library.

All other infrastructure available at RTU and IEVF (auditoriums, teaching methodical offices, sports complexes, canteens, wardrobes, etc.) is also used for the implementation of the program.

Students have access to the databases subscribed to by the RTU library:

- **ProQuest Ebook Central** contains approximately 51,700 full-text e-books published by the world's leading scientific publishing houses – Elsevier, Wiley, Springer, Oxford Press, Emerald, etc. in various fields of science, as well as economics, finance, business;
- **ScienceDirect** - a database of scientific, technical and medical articles created by the publishing house Elsevier. More than 2500 full-text journals (Freedom Collection) from 2002/2005 and 354 full-texts of books are available in various fields of science, as well as in economics, finance, business, management and accounting;
- **Academic Search Complete EBSCOhost** - 8800 full-texts of periodicals in various branches of science, as well as economics, finance, business, management and accounting;
- **Applied Science & Technology Source EBSCOhost** - 1200 full-texts of periodicals (applied mathematics, computer engineering, artificial intelligence, robotics, mechanical engineering, aeronautics, energy, chemical technology, textile industry);
- **Business Source Ultimate EBSCOhost** - 5100 full-texts of periodicals (management information systems, management, production management, marketing, economics, finance, accounting, international trade, insurance);
- **EBSCOhost's eBook Academic Collection** contains approximately 180,200 full-text eBooks in English published by the world's leading scientific publishing houses, in various fields of science, as well as in economics, finance, business, management and accounting;
- **Wiley Online Library database** contains more than 1360 full-text journals (Full Collection) from 1997 in various fields of science, as well as in economics, finance, business, management and accounting;
- **The SpringerLink database** contains Springer's books (~13,100) published in 2014-2018 in various industries, as well as business and economics;
- **The International Monetary Fund (IMF) eLibrary** offers access to important global economic information - IMF resources, periodicals, books, statistical databases and research on macroeconomics, financial crises, globalization, trade, international relations, politics, etc.;
- **LETA sectors**: "Construction and real estate", "Macroeconomics", "Industry", "Trade and services", "Transport and transportation", "Tourism, hotel business";
- **Latvian Standards Database.**

The results of the search for logistics over the past 5 years in the Primo and Exlibris database as well as the list of available books and other informative resources for study program "Logistics" are presented in *Annex 3.3.1 Basic information on the provision of the library and informative resources to students.*

Since, according to the profession standard, future Logistics specialists must be familiar with the field of taxation and customs, students of the study programme are provided with the opportunity to improve their knowledge during lectures and practical classes in the Customs Control Laboratory, which was established at the Governance and Security Institute of the RTU Faculty of Engineering Economics and Management with the support of the Customs Administration of the State Revenue Service. The laboratory is equipped with various measuring devices and technical means used by customs officers in their daily work when inspecting vehicles and persons, such as devices for measuring density and radiant flux, metal detectors, endoscopes, drug tests, etc., which make it possible to check that there are no smuggled goods hidden in the vehicles. In order to train students' abilities to find smuggled goods in practical classes, special hideouts have also been created in hollow boards, car doors, seats, fuel tanks and tires. Thus, hiding places often used in Latvia for the transportation of unauthorized goods are imitated in the laboratory. The laboratory is also equipped with equipment for the demonstration of various customs control training films and videos

The qualification of all teaching staff involved in the implementation of the Study Programme fully

complies with the conditions for the implementation of the study programme and the requirements of regulatory enactments, ensures the achievement of the objectives of the study programme and the corresponding study courses and study results. There is a constant improvement of the qualifications of teaching staff, as well as the improvement of their methodological and scientific developments.

Both the insights gained in various previous and future studies, as well as the models developed in them, as well as the experience gained in cooperation with international cooperation partners, form the basis for training students. To develop an in-depth understanding, students will have to independently compose and solve an example of a specific task for optimizing the transport system system within the framework of their study work. In turn, lectures and practical works will include work with computer programs (e.g. PSPP, MATLAB, Excel), implementing various optimization task solving techniques (e.g., linear, nonlinear, dynamic programming, Monte Carlo method, etc.). The teaching staff has gained significant experience in the practical application of these methods.

Thus, in general, the resources and provision of the study programme are appropriate to the needs of the study programme, however, it is necessary to increase the number of budget places in the programme.

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

Not applicable.

3.3.3. Indicate data on the available funding for the corresponding study programme, its funding sources and their use for the development of the study programme. Provide information on the costs per one student within this study programme, indicating the items included in the cost calculation and the percentage distribution of funding between the specified items. The minimum number of students in the study programme in order to ensure the profitability of the study programme (indicating separately the information on each language, type and form of the study programme implementation).

According to the conceptual report approved by the Cabinet of Ministers on June 29, 2015 "Introduction of a new higher education financing model in Latvia", sectors have been implemented in Latvia structural reforms to ensure the creation of an efficient and sustainable higher education system. A three-pillar financing model has been introduced, which ensures the supply of higher education alignment with the needs of Latvian economic development and the labor market, high-quality, research-based higher education content and results management of higher education in institutions where the 1st pillar is the base funding for ensuring the study process, the 2nd pillar is the performance financing and 3rd pillar development financing.

Starting from 2022/2023 Acad. RTU has one "Financing distribution and utilization methodology for RTU structural units", which includes both the basic budget and the local budget fees, both foreign fees, distribution and use of funding. In this year, RTU made significant progress changes in the

Methodology to approximate the principles of distribution of foreign student fees to local fees principles of student distribution, thus facilitating the work of those responsible for the implementation of study programs process - both by approximating funding distribution periods and principles.

Analyzing the study program and, accordingly, the procedure for financing study directions in RTU as a whole, there is it can be seen that in the case of the basic budget and local fee-paying students, the long-term financing has been and is determined based on the basic principles established by the state (calculated for foreign students the basic principles have been equated to the basic principles of the calculation of local students starting from 2022/2023. Acad. year); in the process of determining the amount of funding, both studies in thematic areas are taken into account cost coefficients and study cost coefficient values according to the level of the study program, but also the number of students in the study program and, accordingly, in the study courses implemented in it.

RTU has a decentralized budget and a separate budget is planned for each structural unit. Budget in a general sense is a revenue and expenditure plan for a certain period of time, work, for an event or function. RTU revenues and expenses are managed according to the principles that are approved by the Senate or determined by the vice-rector for development and finance with the powers granted to it. According to the Methodology, funding for structural units is allocated either according to financial or for the budget year, or immediately after receiving funding. Financial for structural units of RTU or the budget year is from October to September of the following year, for this time period is carried out calculation and allocation of funding.

Taking into account the 2015 "Research on the updating of study cost ratios in higher education and the preparation of proposals for their consolidation" carried out by the Ministry of Education and Science, as well as RTU's empirical calculations and according to experts' assessments, the minimum number of students has been determined to ensure the profitability of the study program (Annex 3.3.2).

Taking into account that the implementation of the study programme was started in February 2023, detailed information on the costs of the study programme and the percentage distribution of costs has not yet been compiled.

3.4. Teaching Staff

3.4.1. 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.

In order to ensure the quality of the study content, the teaching staff involved in the implementation of the programme regularly improves their professional and academic knowledge both in methodological seminars, conferences (national and international), and scientific and

research work (see Annex 3.4.2 *List of academic staff publications for the reporting period*), both by engaging in various projects.

The teaching staff involved in the programme actively use international cooperation and mobility programmes. The teaching staff involved in the study program are actively involved in the implementation of projects related to the field of logistics. The teaching staff has implemented projects such as "Conducting a study on the fulfillment of investment prerequisites for the implementation of a comprehensive transport planning system, which includes investment mapping and the development of an investment assessment methodology", as well as the "UniLog" project, within the framework of which study courses in logistics were developed.

At the moment of submitting the accreditation documents of the study program, the following project applications in the field of logistics have been submitted: 1) Erasmus+ project Train4RailBaltica; 2) Connecting Europe Facility in the project "Cross-Border Operational Digital Platforms for Energy and Transport".

The teaching staff involved in the study programme actively use international cooperation and mobility programmes. In the academic year 2020/2021 due to the impact of the Covid-19 pandemic and the restrictions imposed, the incoming and outgoing mobility of teaching staff was not implemented.

In the academic year 2021/2022, the Study Programme Director and Associate Professor Ingūna Jurgelāne-Kaldava travelled to the University of Cambridge (Great Britain) and RHF Koeln University (Germany) within the framework of the Erasmus+ programme to promote joint cooperation in science and project development.

In the academic year 2022/2023, the Study Programme Director, Associate Professor Ingūna Jurgelāne-Kaldava went to Lahti University of Applied Sciences (Finland) and Heilbronn University (Germany) within the framework of the Erasmus+ programme to promote joint cooperation in science and the development of logistics projects.

Already from 2020, the teaching staff involved in the Study Programme has been exchanged with the teaching staff of the Lithuanian Maritime Academy. Every semester, one of the teaching staff of the Lithuanian Maritime Academy provides lectures to students of the RTU professional bachelor's study programme "Business Logistics" on the topic of maritime transport logistics, while the teaching staff of the RTU study programme lectures to students of the Lithuanian Maritime Academy on logistics supply chains and land transport transport. Thus, internationalization between universities of both countries, exchange of experience and transfer of specific knowledge to students in the study program takes place. This cooperation continues also within the framework of the Study Programme.

The mobility of teaching staff, international scientific cooperation within the framework of projects, as well as publications ensure changes in the content of the program and the use of teaching methods in accordance with the latest trends in the world, thus helping to achieve the defined study results.

The qualification of the teaching staff is determined in accordance with the requirements of the Law on Higher Education Institutions.

In the implementation of the study program will be involved:

- six associate professors - doctors of science whose scientific and pedagogical qualification conforms to the criteria laid down in the laws and regulations regarding the assessment of the scientific and teaching qualifications of an applicant for the position of associate professor;

- five professors - doctors of science whose scientific and teaching qualification conforms to the criteria laid down in the laws and regulations regarding the assessment of the scientific and teaching qualification of an applicant for the position of professor;
- five assistant professors - a doctor of science whose scientific and pedagogical qualification conforms to the criteria laid down in the laws and regulations regarding the assessment of the scientific and pedagogical qualification of an applicant for the position of docent.

Lecturers, researchers and guest lecturers will also participate in the implementation of the study programme.

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

Both academic staff and highly qualified specialists in the field participate in the implementation of the program. In recent years, representatives of both logistics associations, employees of logistics companies and other industry professionals have been increasingly attracted so that students, in addition to their academic vision, also gain knowledge from the practical side of logistics processes. Information on teaching staff is shown in Annex 3.4.2. *List of academic staff publications* and in Annex 3.4.1. *The list of academic staff*.

In the table below (see table 4.1) information on changes in the teaching staff involved in the implementation of the study programme by position is presented. It can be seen that the number of professors, associate professors and assistant professors has increased, as well as specialists in the field are involved in the study process. Thus, it is ensured that various teaching staff are involved in the implementation of the program and students obtain versatile information about the current situation in the industry, both from a theoretical and practical point of view.

Table 4.1

Changes of academic staff in 2021-2023					
Academic year	Professor	Associate professor	Assistant professor	Lecturer	Field expert
2021/2022	5	5	5	2	8
2022/2023	5	6	5	4	8
2023/2024	5	6	5	6	6

From the table it can be seen that every year more and more highly qualified specialists in the field, experts are involved, thus bringing the content of the program as close as possible to the specifics and topicalities of the industry.

3.4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of 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 or peer-reviewed monographs may be additionally specified. Information on the teaching staff included in the database of experts of the Latvian Council of Science in the relevant field of science (total number, name of the lecturer, field of science in which the teaching staff has the status of an expert and expiration date of the Latvian Council of Science expert) (if applicable).

Not applicable.

3.4.4. 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).

Not applicable.

3.4.5. 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 programme and 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).

In order to ensure the interconnection of the content of the study courses, an audit of the study courses of the programme takes place every year, as well as various seminars, where the teaching staff involved in the implementation of the programme introduces the course topics, teaching methods and discusses improvements that would ensure a higher quality of the content of the programme and would be relevant to the current events in the sector.

As a cooperation-promoting mechanism between teaching staff, for example, within the framework of 1 study course, the responsible or implementing teaching staff invites a specialist from the relevant economic sector as part of the study process.

When analyzing the ratio of the number of students and faculty within the framework of the study program at the time of submission of the self-assessment report, the program has five elected teaching staff and two specialists in the field per 1 student.

Annexes

III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme	Annex 3.3.1. Diploma sample and Annex 3.1.2. Diploma supplement sample.zip	3.1.1.pielikums. Diploma paraugs un 3.1.2.pielikums. Diploma pielikuma paraugs.zip
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period	Annex 5. Statistical data of students of the study program.pdf	5.pielikums. Statistika par studējošajiem pārskata periodā.pdf
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with the study programme with the State Education Standard	Annex 6. Compliance with the State Education Standard (2).pdf	6.pielikums. Atbilstība valsts izglītības standartam (4).pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard or the requirements for professional qualification (if applicable)	Annex 7. Compliance with the profession standard.pdf	7.pielikums. Atbilstība profesiju standartam.pdf
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	Annex 8. Mapping of the study courses.pdf	8. pielikums. Studiju kursu kartējums (1).pdf
The curriculum of the study programme (for each type and form of the implementation of the study programme)	Annex 9. Study program implementation plan (1).pdf	9. pielikums. Studiju programmas plāns (4).pdf
Descriptions of the study courses/ modules	Annex 10. Course module descriptions.zip	10.pielikums. Studiju kursu moduļu apraksti.zip
Description of the organisation of the internship of the students (if applicable)	Annex 11. Description of the organisation of the internship of the students (1).pdf	11.pielikums. Studējošo prakses organizācijas apraksts.pdf
III - Description of the Study Programme - 3.4. Teaching Staff		
Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		
Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		

Logistics and Supply Chain Security (47840)

Study field	<i>Transport Services</i>
ProcedureStudyProgram.Name	<i>Logistics and Supply Chain Security</i>
Education classification code	<i>47840</i>
Type of the study programme	<i>Professional master study programme</i>
Name of the study programme director	<i>Ingūna</i>
Surname of the study programme director	<i>Jurgelāne-Kaldava</i>
E-mail of the study programme director	<i>Inguna.Jurgelane-Kaldava@rtu.lv</i>
Title of the study programme director	<i>Dr.oec.</i>
Phone of the study programme director	<i>+371 67089553</i>
Goal of the study programme	<i>The aim of the study programme is to increase students' professional competence for employment in the fields of logistics, supply chain management, and its security. It also aims to equip students with the research skills necessary to prepare specialists who can guarantee high quality throughout all supply chain processes as well as an understanding of the supply chain's effects on the environment and responsible management</i>
Tasks of the study programme	<p><i>The tasks of the study programme:</i></p> <ul style="list-style-type: none"> <i>- to provide competitive education at international level in the fields of logistics and supply chain security in line with the requirements of the master's level, profession standard qualification and international standards;</i> <i>- to provide students with comprehensive knowledge, to develop analytical thinking, to develop skills and competences, as well as to promote practical work skills, preparing students for the labour market;</i> <i>- to ensure the development and improvement of the content of the study program, the study process as well as the scientific research work in accordance with international practice and the latest software, scientific and technological discoveries and innovative methods;</i> <i>- to stimulate students' interest in further professional development and improvement of academic knowledge, to continue their studies at doctoral level, in-service training, as well as to develop interest in research work and to promote the use of these skills;</i> <i>- to encourage cooperation between students and academic staff in the field of scientific research, the practical application of the results of the research both in the study process and in practice, and to encourage international mobility and participation in local and international projects;</i> <i>- to stimulate students' interest in social processes and to develop ethical and socially responsible personalities.</i>

Results of the study programme	<p><i>Study programme graduates are:</i></p> <ul style="list-style-type: none"> - able to determine the organization's supply chain management strategy depending on the specifics of the activity; - able to analyse the globalization and specialization trends of production, trade and transportation and determine the main KPIs of the supply chain; - able to organize supply chain management and control in accordance with the organization's strategy; - able to improve the supply chain process, looking for possible solutions; - able to identify and eliminate weak points in supply chain management processes; - able to monitor the operation of the security risk management system of the established supply chain; - able to work both individually and in a team, using his knowledge and skills, and is also able to take responsibility for the results of his work and the decisions made; - able to carry out independent research with scientific and practical value in the field of logistics and supply chain security, to defend and present his / her opinion in a reasoned way.
Final examination upon the completion of the study programme	<i>Master Thesis</i>

Study programme forms

Full time studies - 1 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>1</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>60</i>
Admission requirements (in English)	<i>Professional bachelor degree in business logistics and professional qualification of logistics manager or comparable education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Full time studies - 1 years - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>1</i>
Duration in month	<i>0</i>
Language	<i>english</i>
Amount (CP)	<i>60</i>

Admission requirements (in English)	<i>Professional bachelor degree in business logistics and professional qualification of logistics manager or comparable education, and English language proficiency equivalent to at least B2 level</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Full time studies - 1 years, 5 months - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>1</i>
Duration in month	<i>5</i>
Language	<i>latvian</i>
Amount (CP)	<i>90</i>
Admission requirements (in English)	<i>Professional bachelor degree and/or first-cycle professional higher education in commercial sciences and administration, economics, law, engineering and technology, manufacturing and processing or construction thematic areas or comparable education and at least one year of work experience in the field of logistics</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Full time studies - 1 years, 5 months - english

Study type and form	<i>Full time studies</i>
Duration in full years	<i>1</i>
Duration in month	<i>5</i>
Language	<i>english</i>
Amount (CP)	<i>90</i>
Admission requirements (in English)	<i>Professional bachelor degree and/or first-cycle professional higher education in commercial sciences and administration, economics, law, engineering and technology, manufacturing and processing or construction thematic areas or comparable education and at least one year of work experience in the field of logistics, and English language proficiency equivalent to at least B2 level</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

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)	120
Admission requirements (in English)	<i>Academic bachelor degree in natural sciences, engineering, environmental sciences, economics, management science and administration or comparable education, and English language proficiency equivalent to at least B2 level</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

Full time studies - 2 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	2
Duration in month	0
Language	<i>latvian</i>
Amount (CP)	120
Admission requirements (in English)	<i>Academic bachelor degree in natural sciences, engineering, environmental sciences, economics, management science and administration or comparable education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>Professional master degree in supply chain management</i>
Qualification to be obtained (in english)	<i>Supply chain manager</i>

Places of implementation

Place name	City	Address
Riga Technical University	RĪGA	KALŅU IELA 1, CENTRA RAJONS, RĪGA, LV-1050

3.1. Indicators Describing the Study Programme

3.1.1. Description and analysis of changes in the parameters of the study programme made since the issuance of the previous accreditation form of the study field or issuance of the study programme license, if the study programme is not included on the accreditation form of the study field, including changes planned within the evaluation procedure of the study field evaluation procedure.

Since the licensing of the Study programme, changes have been made. They were carried out in order to renew the content of the study program and adapt it to the requirements of the industry and employers. The amount of compulsory study courses of the Study programme (Part A) was reduced (in variant 1 from 10 CP* / 15 CP to 6 CP* / 9 CP, but in variants 2 and 3 from 16 CP* / 24 CP to 12 CP* / 18 CP), the amount of compulsory elective study courses (Part B) and field-specific study courses (part B1) was increased (in variant 1 from 4 CP to 6 CP* / 9 CP, but in variants 2 and 3 from 18 CP* / 27 CP to 20 CP* / 30 CP). Free elective study courses (Part C) in the amount of 2 CP were added to the Study programme. After the approbation of the Study programme at the end of the first semester (in the reporting period until April 2023), the following changes were made in order to improve its content. The study course "Global Markets and Supply Chains" was excluded from the compulsory study courses of the Study Programme (Part A) for 6 CP* / 9 CP, but the study course "Global Markets and Supply Chains" was included in the amount of 2 CP* / 3 CP. The study course "Strategic Management in Supply Chains" 4 CP* / 6 CP was excluded from the field-specific study courses (part B1), but the study course "Supply Chain Management Strategy" 2 CP* / 3 CP was included.

CP* - credit points in accordance with the legal norms of the Law of Higher Education, which were in force until October 10, 2022.

3.1.2. Analysis and assessment of the study programme compliance with the study field. Analysis of the interrelation between the code of the study programme, the degree, professional qualification/professional qualification requirements or the degree and professional qualification to be acquired, the aims, objectives, learning outcomes, and the admission requirements. Description of the duration and scope of the implementation of the study programme (including different options of the study programme implementation) and evaluation of its usefulness.

The main tasks of the study program: to provide competitive education at international level in the fields of logistics and supply chain security in line with the requirements of the master's level, profession standard qualification and international standards, to provide students with comprehensive knowledge, to develop analytical thinking, to develop skills and competences, as well as to promote practical work skills, preparing students for the labour market, to ensure the development and improvement of the content of the study program, the study process as well as the scientific research work in accordance with international practice and the latest software,

scientific and technological discoveries and innovative methods, to stimulate students' interest in further professional development and improvement of academic knowledge, to continue their studies at doctoral level, in-service training, as well as to develop interest in research work and to promote the use of these skills, to encourage cooperation between students and academic staff in the field of scientific research, the practical application of the results of the research both in the study process and in practice, and to encourage international mobility and participation in local and international projects, to stimulate students' interest in social processes and to develop ethical and socially responsible personalities.

The specific goals and objectives of the program are set in accordance with the strategic goal and main tasks in cooperation with specialists and employers in the transport and logistics sector.

According to the demands of the global labour market, the study programme is designed to train senior supply chain managers, department managers, and/or business managers. The study approach places the most emphasis on enhancing professional and practical competencies based on scientific accomplishments, theoretical knowledge, and industry-specific details. In order to improve the use of professional terminology in the development of international business and successful collaboration with structures, institutions, organizations, and enterprises of other countries, the study courses are implemented in English while taking into account the specifics of the industry. The implementation of the study process involves university academic staff, industry representatives, and highly qualified practitioners of the field, whose primary work and practical experience have evolved in companies and institutions in the field.

The aim of the study programme is to increase students' professional competence for employment in the fields of logistics, supply chain management, and its security. It also aims to equip students with the research skills necessary to prepare specialists who can guarantee high quality throughout all supply chain processes as well as an understanding of the supply chain's effects on the environment and responsible management.

The tasks of study programme are:

- to provide competitive education at international level in the fields of logistics and supply chain security in line with the requirements of the master's level, profession standard qualification and international standards;
- to provide students with comprehensive knowledge, to develop analytical thinking, to develop skills and competences, as well as to promote practical work skills, preparing students for the labour market;
- to ensure the development and improvement of the content of the study program, the study process as well as the scientific research work in accordance with international practice and the latest software, scientific and technological discoveries and innovative methods;
- to stimulate students' interest in further professional development and improvement of academic knowledge, to continue their studies at doctoral level, in-service training, as well as to develop interest in research work and to promote the use of these skills;
- to encourage cooperation between students and academic staff in the field of scientific research, the practical application of the results of the research both in the study process and in practice, and to encourage international mobility and participation in local and international projects;
- to stimulate students' interest in social processes and to develop ethical and socially responsible personalities.

Measurements of the results of the performance of tasks are the results of students' studies. The acquisition of the study programme is completed by the masters thesis, which is defended in state examination commission and evaluated on a ten-point scale. The criteria for evaluating masters

thesis are:

- systematization, strengthening and expansion of theoretical knowledge and experience;
- independent study of literature and other informative sources, t.sk. Foreign languages;
- the theoretical framework of the tasks and the skill of solving the problem under study, which includes separate and complex summaries and elements of novelty;
- analysis of a topical business problem;
- development of practical solutions in the form of recommendations and proposals;
- development and strengthening of the skills of conducting independent applied research and the ability to defend the obtained practical results.

Results to be achieved by the study programme

On completion of the Study programme, the graduate:

- is able to determine the organization's supply chain management strategy depending on the specifics of the activity;
- is able to analyse trends in globalization and specialization of production, trade and transportation and identify key supply chain KPIs (key performance indicators);
- is able to organize the management and control of the supply chain in accordance with the strategy established by the organization;
- is able to improve the supply chain process by looking for possible solutions;
- is able to identify and address bottlenecks in supply chain management processes;
- is able to monitor the functioning of the established supply chain security risk management system;
- is able to work both individually and in a team, using their knowledge and skills, as well as is able to take responsibility for the results of their work and the decisions made;
- is able to independently conduct research with scientific and practical value in the field of logistics and supply chain security, to defend and present their point of view in a reasoned manner.

On completion of the study program, the graduate will be able to reflect **knowledge** about: global logistics and transport, management of global production and trade, supply chain and competition, supply chain performance indicators (KPIs), supply chain coordination, customs and tax systems, quality of supply chain creation and development standards, integration of production and quality management processes into supply chain processes, logistics process management, use of e-commerce processes in supply chains, responsible business management in the supply chain, management of environmental sustainability in the supply chain, logistics systems technologies, as well as technological solutions to secure supply chains.

On completion of the study program, the graduate will be able to reflect **the skill to**:

- assess trends in the creation and development of global markets for goods, services, finance and labour;
- to evaluate the principles of activities and cooperation of organizations at local and international level;
- understand the nature of competition that is relevant in the supply chain;
- assess the benefits of establishing a supply chain in a competitive environment;
- define the principles of strategic management in international organizations;
- understand the relationship between the functioning of supply chains and the economic policy of the organization;
- identify key performance indicators for supply chains;
- assess the impact of performance indicators on key supply chain processes;

- identify security risks to supply chains;
- establish a supply chain security risk management system and organise its operation;
- monitor the environmental impact of supply chain processes;
- recognise and select new technologies to be used in the operation of supply chains;
- introduce new technologies into supply chain processes.

The list of results to be achieved by the Study programme is in accordance with the profession standard "Supply Chain Manager" (only in Latvia) .

Main functions: *The supply chain manager* defines the organization's overall supply chain management strategy, its management and control, leads the team of employees involved in the supply chain, is responsible for improving the processes of the entire supply chain (covering all processes in the supply chain, from the extraction of raw materials and the production of final products to their distribution to the final consumer, t.sk. including the use of information systems necessary for the coordination of these activities, environmental protection, etc.) through innovations and technological innovations in the operation of the supply chain.

Interconnectedness and reach of the goal, tasks and results to be achieved

First of all, the study process involves both previously acclaimed teaching staff with rich pedagogical work experience, as well as teaching staff who are high specialists and scientists of their field, who, working in one team, will allow to acquire both experience-based knowledge and skills in a balanced way, as well as the most topical in the field of logistics and supply security. Secondly, the study process is implemented in relation to the requirements of the labour market, which ensures cooperation with the industry in the implementation of certain parts of the Study programme: internship, final examination, as well as practical works to be implemented within the framework of individual study courses. Thirdly, all study programmes in general and the objectives, tasks and expected results of individual study courses (acquired knowledge, skills and competences) are closely related to each other, ensuring a high degree of their reach.

The development of the study programme is based on the structure of qualifications in the transport and logistics sector agreed at the meeting of the Tripartite Cooperation Sub-Council on Vocational Education and Employment (PINTSA) of 11 April 2018 (Protocol No. 3) with the description of the LQF level 7 "Supply Chain Manager" and the profession standard "Supply Chain Manager".

The objectives, tasks and planned study results of the Study programme are interrelated and achievable.

Admission conditions

Students with a professional bachelor's degree in business logistics and the professional qualification of a logistics manager is admitted to the professional master's full-time study program with a study program plan in the amount of 40 CP and a study duration of 1 year and 5 months, students with a professional bachelor's degree and/or second-level professional higher education in the thematic areas of commercial science and administration, economics, law, engineering and technology, production and processing or construction is admitted and in a full-time study program with a study program plan in the amount of 80 CP and duration of studies 2 years, students with an academic bachelor's degree in natural sciences, engineering, environmental sciences, economics, management and administration or an equivalent education is admitted.

Opportunity to continue studies

Upon completion of studies, the professional master degree is obtained, as well as the qualification of a supply chain manager, which provides an opportunity to continue studies in doctoral study

programme. This ensures the vertical hierarchy of educational attainment. There is also the right to continue studies in higher education study programmes, as well as credit points transfer is possible

Upon graduation, the student acquires a professional master degree in supply chain management and qualification "Supply Chain Manager".

A sample of the diploma to be issued for the acquisition of the study programme and its annexes is attached (Annex 3.1.1. *Diploma sample* and Annex 3.1.2. *Diploma Supplement sample*).

3.1.3. Economic and/ or social substantiation of the study programme, analysis of graduates' employment.

Professional master study programme "Logistics and supply chain security" (hereinafter referred to as the Study Programme) is being implemented at RTU from **February 2023**. Graduates of the study program will receive a master-level professional higher education and the qualification of a supply chain manager.

RTU FEEM Governance and Security Institute aims to prepare internationally recognized specialists who are necessary for the national economy of the industry, qualified and competitive, to promote the development of research in existing and new scientific directions and, in particular, to promote practical solutions to problems important for the industry in cooperation with entrepreneurs.

In order to maintain and develop the competitiveness of Latvia in the field of logistics as a whole, it is necessary to maintain and improve the 7th level education of the Latvian Qualifications Framework (LQF 7), which prepares both the employees necessary for industries and future scientists.

Description of the future employment

Graduates of the Study programme will work in companies engaged in logistics, international and domestic cargo or passenger transportation, wholesale, retail, production and provision of services, as well as in state and municipal institutions whose activities are related to the transport and/ or logistics sector or provide for the management and organization of logistics services.

[Latvia's sustainable development strategy until the year 2030](#) has been developed by the Ministry of Regional Development and Local Government Affairs. The planning document provides a spatial structure for the future of Latvia. The document intends to strengthen the field of transport and storage in the regions of Latvia, to promote more efficient mutual reach of cities of national significance by ensuring national level airports in Ventspils, Liepaja and Daugavpils. Improved improvements of the road infrastructure of national significance will promote the development of the internal market, while improvement of motorways of international significance will promote external reach and competitiveness. The Rail Baltica project envisages Sectoral Research for Vocational Education – 2. Part: Description and qualification structure of the sector 52 ensure faster transport of passengers and freight by rail. All these improvements will contribute to the development of the transport and storage sector, which will consequently lead to a greater sector's workforce and acquisition of competences.

Policy 5 of the Transport Development Guidelines 2021-2027 (only in Latvian) – Fostered innovation and training of highly qualified professionals in the sector – defines that the number of graduates in education and study programmes related to the transport and logistics sector should be increased by approximately 1000 graduates each year, incl. that all must obtain professional qualifications in

the field of transport and logistics.

Also, at the conference "21st century railway in Latvia: challenges and opportunities in education" organized by the Ministry of Transport on April 23, 2021 presentations emphasized that 24,000 logisticians of various levels will be needed in the near future.

The Ministry of Economics plans that the average growth of the transport and storage sector from 2020-2027 will be 1.5% per annum, and from 2028 to 2040 even 2.5% per annum. Consequently, the demand for middle and high-level logistics workers in the labour market is also predicted.

According to the Ministry of Economics, the analysis of the workforce shows that in the group of educational programs "Transport Services" in 2027 there will be a shortage of 1500 specialists with higher education. This is due both to changes in the economy and to the fact that of the economically active population employed in the field of "Transport Services", 43% are over 50 years old.

It is noted that in both the medium and long term, the demand for labour in the transport and logistics sector will continue to restructure in favour of higher-skilled specialties. Also, an increase in the demand for labour is expected both for specialists with higher education, as well as for vocational secondary and vocational education. The demand for employees with secondary general education will decrease. In 2019, more than 1/3 (34%) of those employed in professions in the transport and logistics sector had only secondary general education.

An analysis of the labour market of the Ministry of Economics until 2040 indicates that the growth of the transport and storage sector will be largely facilitated by the development of the air transport and road transport sectors. In turn, in the transit sector, the dynamics will be slower, which will be determined by the need to look for new types of cargo and delivery routes in order to replace the already long-decreasing volumes of Russian oil products and coal cargoes.

The most important professional knowledge, skills and competences additionally indicated by employers, what is expected of specialists who have acquired professional higher education working in the professions of the industry: the ability to follow and analyse world trends in the industry, identification of new markets, attraction of new customers and development and introduction of new products, to develop proposals for the development of the company, modelling, designing and making design changes for products and services.

A more detailed description of the enrolled students is available in Annex 3.1 "Statistical data of students of the study program."

3.1.4. 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 into different study forms, types, and languages.

The implementation of the study programme was started in February 2023 by enrolling four students in full-time studies. The study programme is implemented as a paid study programme, there are no state-funded budget places in the study programme. Considering that the implementation of the study program was started only in February 2023, an increase in the number of enrolled students can be seen in the academic year 2023/2024." (see Annex 5. Statistics on students in the reporting period).

The professional master study programme "Logistics and supply chain security" is implemented in English.

3.1.5. Substantiation of the development of the joint study programme and description and evaluation of the choice of partner universities, including information on the development and implementation of the joint study programme (if applicable).

Not applicable.

3.2. The Content of Studies and Implementation Thereof

3.2.1. Analysis of the content of the study programme. Assessment of the interrelation between the information included in the study courses/ modules, the intended learning outcomes, the set aims and other indicators with the aims of the study course/ module and the aims and intended outcomes of the study programme. Assessment of the relevance of the content of the study courses/ modules and compliance with the needs of the relevant industry, labour market and with the trends in science on how and whether the content of the study courses/ modules is updated in line with the development trends of the relevant industry, labour market, and science.

The study program is implemented in 3 implementation variants, which depend on the previously acquired education. The volume of the 1st implementation variant is 40 CP* / 60 CP, which consists of study courses (14 CP* / 21 CP), internship (6 CP* / 9 CP) and state examination (20 CP* / 30 CP), a part of which is the development and defense of the master's thesis. The volume of the 2nd implementation variant is 60 CP* / 90 CP, which consists of study courses (34 CP* / 51 CP), internship (6 CP* / 9 CP) and state examination (20 CP* / 30 CP), a part of which is the development and defense of the master's thesis. The volume of 3rd implementation variant is 80 CP, which consists of study courses (34 CP* / 51 CP), internship (26 CP* / 39 CP) and state examination (20 CP* / 30 CP), a part of which is the development and defense of the master's thesis.

There are no differences in the achievement of the common goals and the achievable results between the various variants of the program implementation.

The choice of study courses in the professional master's study programme, the scope and content of the study courses, as well as the content of the internship have been developed according to the professional degree and qualification to be obtained in accordance with the profession standard of a supply chain manager.

During his or her studies, each student develops and defends at least one study paper (study projects). During the development of study projects, students conduct research on the field of Transport and Logistics, analyze enterprises in the industry, their activities, make economic calculations for improving the performance of enterprises.

Attracting guest lecturers - specialists in the field and taking into account the suggestions of

students for the development and improvement of the content of the study program, changes are made in the content of study courses and programs almost every year in accordance with the trends of the industry.

Annex:

- a table on the compliance of the study programme with the State Education Standard (see Annex 6);
- a table on the compliance of the qualification to be obtained in the study programme with the profession standard or the requirements for professional qualification (if the profession does not require the development of a profession standard) (see Annex 7)
- the study programme plan (for each type and form of implementation of the study programme) (see Annex 9);
- descriptions of study courses (modules) of the study programme (see Annex 10);
- mapping of study courses for achieving the study results of the study programme (see Annex 8).

CP* - credit points in accordance with the legal norms of the Law of Higher Education, which were in force until October 10, 2022

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3.2.2. In the 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. In the 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 (if applicable).

The implementation of the Study programme is ensured by RTU academic staff from several structural units – professors and lecturers with a doctoral degree, each of whom is an expert in their field. If necessary, teaching staff from foreign partner universities and, for the implementation of more practical classes, professionals in the field are attracted to ensure the Study programme. During the study process, industry specialists and representatives of companies are also invited as guest lecturers, who provide specific knowledge and share experience within the framework of the relevant study courses.

The academic staff elected by RTU is responsible for the content and creation of study courses. Under the guidance of the director of the Study programme and the responsible teaching staff, a team of teaching staff works on the implementation of the study course, which can attract industry professionals, doctoral students, guest lecturers.

The qualification of all teaching staff involved in the implementation of the Study programme fully complies with the conditions for the implementation of the Study programme and the requirements of regulatory enactments, ensuring the achievement of the objectives of the Study programme and the corresponding study courses and study results. There is a constant improvement of the qualifications of teaching staff, as well as the improvement of their methodological and scientific developments.

Both the insights gained in various previous and future studies, as well as the models developed in

them, as well as the experience gained in cooperation with international cooperation partners, form the basis for training students on the issues of compiling and solving smart energy system optimization tasks, which are closely related to the current scientific developments and current needs of the industry. In order to develop an in-depth understanding, students will have to independently compose and solve an example of a specific task for optimizing the transport system within the framework of their study work. In turn, lectures and practical works will include work with computer programs (e.g. PSPP, MATLAB, Excel), implementing various optimization task solving techniques (e.g., linear, nonlinear, dynamic programming, Monte Carlo method, etc.). The teaching staff has gained significant experience in the practical application of these methods.

The high demand for transport and logistics specialists in Latvia and abroad, as well as the globally growing topicality of scientific research in the field of transport and logistics, put forward ever newer requirements in relation to the contribution of the implementation of the Study Programme as a basic factor of sustainable development and excellence. Particular attention in this regard should be paid to scientific research. Namely, it is more concerned with the content, organisation and practical implementation of master's and doctoral study programmes, and fully complies with the objective of RTU and the study field to ensure science-based studies, as a result of the acquisition of which students would be able to fully implement sustainable management of state, local government institutions, various types of enterprises, as well as ensure the development of society, education and business management in accordance with international, Latvian state and public interests, and the level of scientific progress. At the same time, students in graduate studies also:

- are involved in research work during the development of diploma (master's) thesis, as well as using the opportunity to work in research projects in case of availability of appropriate funding (for example, in a competition for research projects of RTU teaching staff and students);
- students have the opportunity to voluntarily participate in research conducted by the academic staff of the Institute of International Economic Relations and Customs as research participants, thus getting to know the research process better.

In addition, it should be noted that during the reporting period the qualitative and quantitative indicators of research activity are sufficiently high, thus ensuring the sustainability of the development of the Study programme. The main focus is on the publication of scientific articles in the publications included in the SCOPUS and Web of Science databases, because it is these publications that provide an opportunity to obtain more funding for further research and contribute to the effective functioning and development of the Study programme. Lecturers of the Study programme use the research results and insights of both their own and colleagues in teaching courses, referring to them and linking them with other international studies and insights. I.e., scientific research is aligned with the study process and its implementation contributes to:

- Latvia's progress towards a technology-oriented and knowledge-based [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.pkc.gov.lv/sites/default/files/inline-files/NAP2027__ENG.pdf](https://efaidnbmnnnibpcajpcglclefindmkaj/https://www.pkc.gov.lv/sites/default/files/inline-files/NAP2027__ENG.pdf);
- the provision of higher education according to the national concept: http://www.aip.lv/informativie_zinojumi_5.htm (in Latvian);
- orientation towards the development of innovative engineering industries: <https://www.em.gov.lv/lv/media/10258/download> (in Latvian);
- the creation of opportunities for the use of science-intensive technologies in sectors of national importance and high added value: <https://likumi.lv/ta/id/322468-par-zinatnes-tehnologijas-attistibas-un-inovacijas-pamatnostadnem-20212027-gadam> (in Latvian).

The award of the professional master's degree is based on the achievements and insights of the transport and storage industry and its sub-sectors. Master theses and study papers are being developed on problems important for the industry.

An essential component of the master's thesis is a scientific article in English about a study analysed in the master's thesis. The essence of a scientific article is to analyse the achievements of the field of science on the topic being studied, to point out unresolved or incompletely addressed issues, putting forward and describing your research method and the research technology used, as well as to describe and analyse results that are impossible without relying on the latest achievements and insights of the field of science.

The Study programme is currently the only one in Latvia, and there are only a small number of similar programmes in the international education area. The competitiveness of graduates of the Study programme is assessed as very high. The content of the Study programme reflects the development trends of the industry and ensures the preparation of specialists in changing socio-economic conditions. Graduates of the Study programme have highly developed research skills. The competitiveness of the Study programme is confirmed by the fact that, according to the SRS data available to the RTU administration, all graduates are employed, most of them work in the fields of transport and logistics. The content of the Study programme is updated in accordance with the industry, labour market and research development trends. The Study programme is improved taking into account the results of student surveys, as well as the recommendations of employers.

The award of a professional master's degree is based on the requirements specified in regulatory enactments and the profession standard "Supply Chain Manager" (<https://registri.visc.gov.lv/profizglitiba/dokumenti/standarti/2017/PS-147.pdf>) (in Latvian). According to Section 59 of the Law on Higher Education Institutions (<https://likumi.lv/ta/id/37967-augstskolu-likums>) (in Latvian), it is stipulated that "upon completion of an accredited higher education programme of the relevant cycle, a master's degree and a seventh-level professional qualification may be obtained, for which a diploma of master's and professional qualification is issued".

Thanks to close cooperation with industry associations and the Ministry of Transport of the Republic of Latvia, its management and RTU teaching staff, the Study programme fully ensures the acquisition of knowledge specified in the profession standard.

In turn, the duration and content of the Study programme is based on the requirements referred to in Cabinet Regulation No. 305 *Regulations Regarding the State Standard of Professional Higher Education* (<https://likumi.lv/ta/id/342818-noteikumi-par-valsts-profesionalas-augstakas-izglitibas-standartu>) (in Latvian) regarding the amount of the study programme, the amount of contact hours, the mandatory content, as well as the basic principles for the acquisition and assessment of the Study programme (see Annex 6).

3.2.3. Assessment of the study programme including the study course/ module implementation methods by indicating what the methods are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. In the case of a joint study programme, or in case the study programme is implemented in a foreign language or in the form of distance learning, describe in detail the methods used to deliver such a study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.

The didactic concept of the study program is based on the use of the latest and most advanced teaching methods. It provides for the development of the study content and the organization of studies, which ensures sequential and in-depth acquisition of the knowledge provided for in the study program and is oriented towards solving real practical examples and problems, to an in-depth study of the main theoretical and practical issues of business logistics. It includes methods stimulating the acquisition of knowledge, as well as interactive cooperation of students, teachers and practice leaders, allows for free discussion in an intercultural environment. Modern study methods such as group work, case studies, seminars, discussions, study tours to industry companies are used in the implementation of the program in order to acquire and/or consolidate the study substance in an appropriate working environment, explanation of lectures using PowerPoint or other types of presentations.

In addition to theoretical classes in the auditoriums, practical study tours are organized for students to the largest companies and organizations in the industry both in Latvia and abroad. Study tours are created both for a more in-depth understanding of individual topics within the framework of a particular study course, as well as as thematic study tours.

So, for example, in the 2022/2023 academic year, students had the opportunity to go on study tours to such companies as "Rīgas Satiksme", JSC "AirBaltic Corporation", SIA Itella Logistic", SIA "Maxima Latvija" and "Freeport of Riga".

By organizing study tours and study visits, the connection of the content of the study program with the specifics of the industry is ensured, students acquire not only theoretical knowledge, but are able to link them with everyday situations in logistics companies, analyze problems and argue their point of view.

RTU's interactive e-learning environment on the <https://estudijas.rtu.lv/>, which is built on the Moodle platform, which is regularly used by students, academic staff and guest lecturers in the study programme, is used in the implementation of the programme. The portal provides the student with access to all up-to-date information during the study process. It contains current study courses (annotations, requirements for successful completion of the study course, lecture plan, lecture and practical lesson materials, necessary literature, etc.), information on the student's success and completed study courses, current reports, library information, access to teaching and scientific literature and databases, e-mail, etc. In the e-learning environment, the teaching staff places various tests and tasks for self-control of the student's knowledge, as well as the system allows for the possibility of creating various intermediate tests and tests. Within the framework of this portal, it is possible to communicate with every teaching staff, but within the framework of current courses also with fellow students. Discussion forums have been created on the portal, regular surveys are conducted on the content, quality and presentations of the teaching staff who implement the study course, and other audio/video and technical aids are available.

In academic matters, the individual approach is ensured in accordance with the methodology "On guidelines for the planning of the work of teaching staff" approved by the RTU rector's order, which stipulates that the teaching staff must provide consultations to every 25 students in the flow of lectures in the amount of 15% of the amount of lecture hours. In addition, separate consultation hours are provided for the management of study papers and projects, internship work and final work. Before exams, pre-examination consultations are organized. If necessary, students can directly contact the teaching staff outside the consultation period by sending current questions in the form of messages or on the forum of the corresponding study course in the ORTUS system or ask them by e-mail.

