

APPLICATION

Study field "Architecture and Construction" for assessment

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| Study field | <i>Architecture and Construction</i> |
| Title of the higher education institution | <i>Rēzeknes Tehnoloģiju akadēmija</i> |
| Registration code | <i>3146001444</i> |
| Legal address | <i>ATBRĪVOŠANAS ALEJA 115, RĒZEKNE, LV-4601</i> |
| Phone number | <i>+371 28325368</i> |
| E-mail | <i>rta@rta.lv</i> |



Self-evaluation report

Study field "Architecture and Construction"

Rēzekne Academy of Technologies

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I - Information on the Higher Education Institution/College

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

RTA was founded in 1993 under the name of Rezekne Higher Education Institution with the aim to develop culture, education and science in Latgale region and throughout Latvia. In 2016, Rēzekne Higher Education Institution changed its name to Rezekne Academy of Technologies, respecting its academic and scientific capacity development indexes, implementing the goal defined by its Constitution - to provide students with academic and professional higher education that is competitive in the European education space and complies with the level of scientific development and Latvian cultural traditions, by developing regional studies and research.

RTA vision in line with [RTA operating and development strategy 2016-2023 \(RTA Strategy\)](#) is to become an internationally competitive Academy of Technologies in the space of European higher education and science integrated with engineering, social sciences and humanities with motivated and creative students that are demanded in the labour market and an open, dynamic academic and scientific environment for sustainable development of the community.

RTA mission is to contribute to the transformation and growth of society and economy through education, research, science and innovation providing new products and technologies in the scientific fields and interdisciplinary fields represented by RTA both nationally and internationally.

The long-term goal set in the RTA Strategy is to strengthen RTA strategic role in Latgale region, in the system of Latvian and European higher education and scientific institutions, positioning itself as an academy of technologies focusing on the development, acquisition, research, popularization and application of multidisciplinary technological solutions.

In the academic year 2019/2020 RTA study process is implemented in 3 faculties, 14 study directions and 49 study programmes (see Table 1.1.) at all study levels - from first level professional higher education to doctoral study programmes.

Table 1.1.

Study directions implemented at RTA

| Faculty of Engineering (FE) | Faculty of Economics and Management (FEM) | Faculty of Education, Languages and Design (FELD) |
|-----------------------------|---|---|
|-----------------------------|---|---|

| | | |
|---|--|---|
| <ul style="list-style-type: none"> • "Architecture and Construction" • "Information Technology, Computer Engineering, Electronics, Telecommunications, Computer Management and Computer Science" • "Mechanics and Metalworking, Heat Power Industry, Heat Engineering and Mechanical Engineering" • "Production and processing" | <ul style="list-style-type: none"> • "Management, Administration and Real Estate Management" • "Internal Security and Civil Defence" • "Law" • "Economics" • "Information and Communication Sciences" | <ul style="list-style-type: none"> • "Social Welfare" • "Arts" • "Education, Pedagogy and Sport" • "Translation" • "Language and Culture Studies, Native Language Studies and Language Programmes" |
|---|--|---|

RTA study and research infrastructure are located in Rezekne at Atbrivosanas aleja 115. Some study programmes are implemented at RTA branches in Madona and Livani, which were established at the request of Madona and Livani municipality in order to support the preparation of qualitative workforce in accordance with regional development strategies. Since 2017 study programmes are not implemented in Madona, but Livani branch is implementing first level professional higher education study programme "Mechanical Engineering", which is in line with Livani county development strategy and is aimed at training and employment of specialists in local enterprises.

In 2015 RTA founded Eastern Latvia High School of Technologies, where the general secondary education programme is implemented in STEM fields in order to promote the purposeful and systematic preparation of students for studies in science, technology, engineering and mathematics.

Number of students at RTA from 2013 to 2019 show some degree of persistence (see Table 1.2.)

Table 1.2

The dynamics of the number of students at RTA 2014-2019

| Study year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--------------------|------|------|------|------|------|------|------|------|
| Number of students | 1851 | 1807 | 1876 | 1881 | 1753 | 1632 | 1650 | 1489 |

According to the statistics data 2019 of the Ministry of Education and Science, RTA is the 6th largest higher education institution among 16 state universities and the 11th largest among 29 state and private education institutions.

RTA operates in accordance with the RTA strategy, strategy, which defines its main strategic objectives:

01. To ensure purposeful, coherent and successive implementation of STEM and resource-intensive study direction geared towards the development, acquisition and application of innovative technologies in Latgale region by preparing specialists necessary for Latgale, Latvia and European economic growth, promoting the involvement of young specialists in science and research.

02. To offer science-based, interdisciplinary study programmes focused on the acquisition, application and development of innovative technologies, attractive and modern study and research environment, preparing competitive professionals for regional, national and international job markets and enhancing study quality.

- 03.** To implement the principle of unity of pedagogical and research work, to develop the scientific research capacity of RTA academic staff, ensuring technological excellence and transfer for the development of business environment and national economy.
- 04.** To create a modern and sustainable RTA infrastructure complex and modern equipment particularly developing STEM and resource-intensive directions for fundamental and applied research, excellent study environment and innovation support.
- 05.** To develop the attractiveness of the region by involving academic staff and students of RTA in the social, cultural and economic life of Latgale, sustainable use of resources, preservation and circulation of the region’s cultural and historical values.

Each objective has tasks and main short-term (until 2019) and long-term (until 2023) outcomes.

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

In accordance with the [RTA Constitution](#), RTA is an autonomous educational and scientific institution with self-governing rights. Its autonomy is expressed in the right to freely choose the types and forms of implementation of tasks set by RTA founder that are in compliance with the [Law on Higher Education Institutions](#), as well as in responsibility for the quality of education provided by RTA, purposeful and rational use of financial and material resources, observance of the principles of democracy and the laws regulating the activities of higher education institutions.

RTA has the right to draft and adopt RTA Constitution, to form RTA staff, independently determine the content and forms of study programmes, student enrolment regulations, basic directions of scientific research work, RTA organizational and management structure, pay wage rates not lower than those set by the Cabinet of Ministers and to do other activities that do not contradict the principles and tasks set by the RTA founder and the [Law on Higher Education Institutions](#). See the RTA management structure in Annex 2.

The main RTA institutions involved in the decision-making process are the Constitutional Assembly, the Senate, the Student Council, the Study Council, the Science Council, the Faculty Council, the Study and Direction Council. See Table 1.2.1 for their composition and description of their powers.

Table1.2.1.tabula.

Main RTA bodies involved in RTA decision-making process

| RTA decision-making bodies | Structure of the institution | Power of the institution |
|----------------------------|------------------------------|--------------------------|
|----------------------------|------------------------------|--------------------------|

| | | |
|-------------------------|---|---|
| Constitutional Assembly | 39 representatives of academic staff, 9 general staff and 12 students. | Adopts and amends the regulations of the RTA Constitutional Assembly and accordingly adopts and amends the RTA Constitution, elects RTA Senate, approves or amends RTA Senate regulations, revokes RTA Senate members, elects and dismisses RTA Rector, hears RTA Rector's report, elects RTA Academic Arbitration court, approves its regulations, as well as considers other issues of RTA in accordance with the regulations of RTA Constitutional Assembly. |
| Senate | 19 representatives of academic staff members, 1 general staff member and 5 students | Approves the rules and regulations governing all areas of RTA. |
| Student Council | 21 student representatives - 7 from each faculty. | Represents RTA students' interests in the study, science and culture issues participates in the work of RTA institutions (Constitutional Assembly, Senate, Academic Arbitration Court, Faculty Council, Scholarship Commission, Credit Granting Commission, Study Program Self-Evaluation Preparation Working Group), develops and implements projects related to students' interests. |
| Study Council | Vice-Rector for Studies and Science, Head of the Study Department, Deans, one Head of the Faculty, Deputy Rector for Cooperation and Development, Head of the Lifelong Learning Centre, Head of the Academic Direction of the Student Council | Analyses the study system and determines its improvement and development directions. Evaluates academic and professional study programmes and controls their content and quality. Analyses study budget projects and their implementation. Researches and introduces Latvian and foreign experience in the field of higher education. |

| | | |
|-------------------------------|---|--|
| Science council | RTA Rector, Vice-Rector for Studies and Science, Deans of Faculties, Heads of Institutes, Project Coordinator, Head of Science Department and Head of Library, Academic Director of the Student Council | By assessing the scientific potential of RTA, the material and financial resources to be used for research, the interests of the research community and individual scientists, it identifies the main directions of research and, through the opportunities available to RTA, facilitates the involvement of scientific and academic staff. |
| Faculty Council | The Dean of the Faculty, the professors and associate professors elected by the Faculty and RTA, the heads of study directions of the respective faculty, the student representatives, whose proportion in the Council shall not be less than 20% of the composition of this Council. | Defines the basic directions and principles of the development of studies, scientific activities and material and technical base in the faculty. Develops the faculty development concept and controls its implementation. Elects the Dean and heads of the structural units of the faculty. Approves study plans. Approves changes to the content of the study programme if they do not exceed 20% of the content of accredited study programme. Approves and controls the financial estimates of the faculty. Evaluates and directs study field self-evaluation reports, licensing / accreditation materials for approval to the Study Council. Decides on the organizational issues of the faculty scientific and academic conferences. Approves the proposals of the study directions regarding the composition of state and final examination commissions and time of these examinations. |
| Study Direction Council (SDC) | Directors of the study programmes and modules | SDC plans, coordinates and promotes scientific activities, the development of SD studies and scientific infrastructure, the activities of SDC in the study, research and other projects for the development of the study direction. SDC decides on the main issues of SD study, methodological, scientific and organizational activities, development of study programmes/modules, making significant changes in the study programmes, organization of internships, methodological and organizational provision and management of study research, regular, final and state examinations, planning, preparation and publishing of scientific literature, ensuring self-assessment of SV, co-operation with employers, Latvian and foreign institutions in the field of studies and research, promotion of SD and study programmes in society. |

List of RTA laws and regulations, see Annex 1.

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

RTA quality management system is maintained based on the priorities in higher education set forth in the European Higher Education Standards and Guidelines for Quality Assurance and the Higher Education Act. Quality processes at RTA are monitored by a quality management system specialist who is responsible for analysing, developing, implementing and maintaining the RTA quality management system.

RTA's Quality Management System (QMS) has been developed in line with the Excellence model taking into account the Standards and Guidelines for the Quality Assurance in Higher Education Area elaborated by the European Foundation for Quality Management (EFQM) and ISO9000: 2015 standard recommendations. RTA quality policy is aimed at RTA mission, sustainable development and achievement of strategic goals by providing high-quality study process and scientific work that meets standards and regulatory requirements. RTA has approved QMS implementation plan till 2020, which is fulfilled. RTA has developed and implemented all procedures related to study quality management, supervision and improvement. Since 2005 there is a **study quality management system** (available [on RTA website](#)) in RTA that covers all major areas of study work: compliance of study process with RTA development strategy, academic staff, study program, study process, infrastructure, financing, etc. quality aspects.

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

| | | |
|----|--|---|
| 1. | The higher education institution/ college has established a policy and procedures for assuring the quality of higher education. | <p>Complies</p> <p>The RTA Quality Handbook, which also covers the RTA quality policy, is available on the RTA website. https://www.rta.lv/uploads/source/content_EN/Studies/SQMS/2/RTA%20Quality%20Management%20Handbook%2020190502-en.pdf RTA study quality management system</p> |
| 2. | A mechanism for the creation and internal approval of the study programmes of the higher education institution/ college, as well as the supervision of their performance and periodic inspection thereof has been developed. | <p>Complies</p> <p>Regulations on academic and professional studies and study programmes at RTA, Annual self-evaluation system of RTA study directions and study programmes Expert councils of RTA study fields have been established</p> |

| | | |
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| 3. | The criteria, conditions, and procedures for the evaluation of students' results, which enable reassurance of the achievement of the intended learning outcomes, have been developed and made public. | Complies |
| | | There has been developed study quality system based on learning outcomes, Regulations on study course exams and tests, Regulations on state and final examinations. Available on RTA website, in RTA Student Manual |
| 4. | Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed. | Complies |
| | | RTA human resource development plan, academic personnel development guidelines, regulations on RTA lecturer procedure for evaluation of academic staff quality, professional development programme in higher education didactics or innovation in higher |
| 5. | The higher education institution/ college ensures the collection and analysis of the information on the study achievements of the students, employment of the graduates, satisfaction of the students with the study programme, efficiency of the work of the academic staff, the study funds available, and the disbursements thereof, as well as the key performance indicators of the higher education institution/ college. | Complies |
| | | Student surveys, Annual study program self-evaluation reports, RTA annual reports |
| 6. | The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study direction whilst implementing their quality assurance systems. | Complies |
| | | Annual study direction self-evaluation reports, RTA study direction expert councils |

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

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

RTA has been implementing the first level professional higher education study programme

“Construction” (hereinafter the Study Programme) corresponding to the study direction “Architecture and Construction” (hereinafter the Study Direction) since 2004. Its development was determined by the goal defined in the strategy of Rezekne Higher Education Institution (now RTA) to strengthen the strategic role of RTA in Latgale region, Latvian and European higher education and scientific institutions, positioning itself as an academy of technologies, focusing on the development, acquisition, research, popularization and application of multidisciplinary technological solutions, emphasizing the essential role of interdisciplinary links in the development of higher education and science in Latvia, primarily reducing the factors hindering the development of Latgale region, guaranteeing the development and practical implementation of innovative products necessary for traditional economic sectors, creative and cultural industries. The study programme was developed by the initiative of Rezekne City Council to provide specialists in construction (construction managers, construction supervisors) for the needs of the region. The demand for construction managers and construction supervisors has not decreased even now.

When developing the study programme, it was compared with the study programmes corresponding to the EQF level in Latvia and abroad. According to AIC^[1] data, study programmes corresponding to the study direction are implemented by 7 higher education institutions of Latvia: University of Applied Sciences “RISEBA”, Latvia University of Life Sciences and Technologies, University of Latvia, Rezekne Academy of Technologies, Riga Building College, Riga Technical University and Vidzeme University of Applied Sciences. The 1st level professional education study programme in construction, which is based on the fourth professional qualification level profession standard “Construction Manager”, is implemented by five higher education institutions in Latvia (see Table 1.1.1).

Table 1.1.1.

Study programmes based on the profession standard “Construction Manager”

| Name of the programme | Higher education institution | Volume of the programme, study forms | Professional qualification |
|-------------------------|---|--|----------------------------|
| Construction management | Riga Technical University | 100 CP 2 years, 6 months full-time 3 years, 0 months part-time external, part-time evening studies | Construction manager |
| Construction | Latvia University of Life Sciences and Technologies | 120 KP 3 years, 0 months full-time studies, 3 years, 6 months part-time studies | Construction manager |
| Construction | Rezekne Academy of Technology | 120 KP 3 years, 0 months full-time studies 3 years, 6 months part-time external studies | Construction manager |
| Civil engineering | Riga Building College | 120 KP 3 years, 0 months full-time daytime and evening studies | Construction manager |

| | | | |
|--|--|---|----------------------|
| Construction of wooden buildings and eco-buildings | Vidzeme University of Applied Sciences | 100 CP 2 years, 6 months full-time studies | Construction manager |
|--|--|---|----------------------|

In Latgale region, the 1st level professional higher education study programme in construction, which is based on the 4th professional qualification level profession standard “Construction Manager”, is implemented only by RTA. The RTA study programme ensures the succession of education for specialists who have acquired secondary professional education in construction in the region of Latgale. After graduating from the programme, it is possible to continue studies and obtain the 5th professional qualification. Persons who have acquired the 1st level professional education in construction can obtain the right of independent practice in construction management and construction supervision. RTA graduates actively use such opportunities and become construction specialists (persons who have acquired the right to work independently in the field of architecture or civil engineering), mainly working in construction companies in Eastern Latvia.

In comparison with foreign higher education institutions, it should be taken into account that the number of students in the 1st level professional higher education programmes is not homogeneous. According to Eurostat data[2], in 2020, the largest number of students in the 1st level study programmes is in Turkey (36.6%), Spain (20.2%), France (19.3%), **Latvia** (18.3%) and Austria (17.5%). Social science programmes, which are acquired by 22% of students of 27 EU countries, are the most popular in Europe, but second most popular field of study is **engineering, manufacturing and construction**, which is studied by 15.8% of EU students, $\frac{3}{4}$ of which are men. RTA has concluded an ERASMUS cooperation agreement with the bachelor's study programme Civil and Construction Engineering,[3] implemented at the Deggendorf Institute of Technology, which envisages study and internship mobility for the students acquiring the Study programme. The content of the DIT programme corresponds to the RTA Study Programme, the study content acquired in mobility is fully acknowledged by RTA.

[1] AIC. Accredited study directions and programmes.

[2] Tertiary education. Statistics.

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tertiary_education_statistics&oldid=507549#Participation_by_level

[3] Civil and Construction Engineering, B.Eng. Faculty of Civil and Construction Engineering.

<https://www.th-deg.de/biw-b-en#subject-overview>

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

The goals of the study direction “Architecture and Construction” are defined on the basis of the strategic planning documents of Latvia, Latgale region and RTA: “Education Development Guidelines 2021-2027. “Latvia 2030”, “Latgale 2030”, “[Development Strategy of Rezekne Academy of Technologies 2016-2023](#) ”, etc. The RTA positions itself as a **regional development center**, where human resources and infrastructure are concentrated so that all subjects of the innovation

system - education, science and business - develop priority areas / directions for **the region and the state, including engineering sciences and technologies**. The RTA Strategy envisages further development of metalworking, heat energy, heat engineering, mechanical engineering, materials science, materials production and processing, construction, electrical engineering, information and communication technologies, computer engineering, electronics, telecommunications, computer control and computer science, environmental engineering, biomass, production and processing (food processing, industrial and clothing design, production logistics), and other STEM and resource-intensive industries based on the principle: science → innovation → prototyping → technology transfer → manufacturing.

The goals of the study direction correspond to the regional development, the requirements of the labor market, i.e. the training of competitive construction specialists at the regional and national level. The goals of the study direction are defined **using the brainstorming method and SWOT analysis**, involving the stakeholders in the development of the study direction: students, lecturers, representatives of the administration, as well as employers.

Vision - the study direction "Architecture and Construction" is a training center for higher professional education construction specialists in Eastern Latvia.

Mission - to provide the national economy of Latvia, and especially Latgale region, with highly qualified professional construction specialists having the level of knowledge and skills necessary for the high-quality performance of duties corresponding to the demand.

Aim - to prepare students for work in the specialties of construction manager or construction supervisor, promoting their development as free, responsible and creative personalities, to facilitate the acquisition of knowledge and skills (including independent learning skills) that ensure the opportunity to obtain fourth level professional qualifications, to promote competitiveness in the changing socio-economic conditions, to create motivation for further education and to provide an opportunity to obtain second level professional higher education and the fifth level professional qualification and the right of independent practice in the in the field of construction.

Tasks -

- to prepare theoretically and practically construction managers in accordance with the "Construction Manager" profession standard and labor market requirements, who can perform complex work of a contractor, as well as to organize and manage construction works in accordance with regulatory documents regulating the construction process;
- to ensure the fulfillment of the first level professional higher education standard for obtaining the qualification of a construction manager;
- to strengthen the infrastructure of studies and scientific activities at the Faculty of Engineering, to create and maintain a laboratory complex for the implementation of a modern study process;
- to expand continuously the study and research information base, increase the library stock, including electronic resources;
- to develop, improve and publish annually teaching materials, manuals, scientific research literature;
- to continue involvement in international projects in order to improve the quality of studies and material and technical base;
- to update study methods, ensure extensive use of e-learning, computer equipment, multimedia and the Internet;
- to create, maintain and expand a network of student internship companies;

- to expand and strengthen international relations in the implementation of the study direction.
- to carry out in-service training, internships and training for academic and laboratory staff.

The construction sector plays an important role in the economy of Latvia - its share in terms of value added reaches 5.9%; it comprises 6.4% of the total number of jobs; its contribution to the budget of Latvia is 2.3% of all tax revenues.[1]

In the period from 2011 to 2019, the construction sector in Latvia has experienced the fastest value added growth in comparison with other manufacturing sectors. The development of the construction sector is forecasted to increase from **-1.4** in the period 2000-2001, to **5.4** in the period 2022-2027 and **2.1** in the period 2028-2040. Exports of construction services also maintain a positive balance even under the influence of Covid-19, when exports of services in Latvia decreased by 21.3%.[2] In the construction sector, rapid growth is expected in the medium term, which will be facilitated both by the implementation of large investment projects (for example, *Rail Baltica*) and the need to gradually renew the current housing stock. Therefore, it is planned that in the future the demand for labor force will gradually grow in the construction sector as well. In the long run, the development of the sector will be affected by the demand for energy-efficient and "green" construction. [3]

In accordance with the NDP 2030, the **Latgale Development Programme 2021-2027** according to the goal "Quality living environment and territorial development" plans to create multimodal projects - reconstruction of buildings, construction, construction of transport system connection elements, renovation of state main road sections in cities, including construction and reconstruction of bridges, construction of bridges, overpasses, tunnels and streets of development centers and centers of regional significance, construction, renovation, reconstruction of sports and cultural objects of local, national and international significance[4], and other measures that will require qualified construction specialists.

The Latvian construction industry development strategy for 2017-2024 forecasts that the demand for specialists of the 4th professional qualification level will increase by 45% in the period until 2030.

Table 1.2.1.

Forecasts of occupation groups in the construction sector of Latvia 2020-2030[5]

| Prof. qualification level | Profession group | Employment structure 2017 | Number (thousands) | Sector forecasts 2020 | Sector forecasts 2030 |
|---------------------------|---|---------------------------|--------------------|-----------------------|-----------------------|
| 1 | Low qualification professions, auxiliary workers | 18% | 11.1 | +8% | -30% |
| 2 | Medium-skilled construction workers and craftsmen, operators, fitters | 60% | 43.6 | +4% | +6% |
| 3 | Average specialists | | | | |

| | | | | | |
|---|---------------------------------------|-----|------|------|------|
| 4 | Senior specialists (highly qualified) | 22% | 17.3 | +20% | +45% |
| 5 | Managers | | | | |

[1] Construction industry indicators. Partnership of the construction contractors of Latvia
<https://www.latvijasbuvnieki.lv/statistika/>

[2] The report on the development of the economy of Latvia.
<https://www.em.gov.lv/lv/media/4061/download>, 30 p.

[3] Medium and long-term labor market forecasts. <https://www.em.gov.lv/lv/media/598/download>

[4] Latgale planning region development programme 2020-2027.
<https://lpr.gov.lv/wp-content/uploads/2006/planosana/0-PROGRAMMA.pdf>

[5] Latvian construction industry development strategy 2017-2024
<https://www.em.gov.lv/lv/media/1243/download>

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

The aim of the study direction, as indicated above, includes: 1) preparation of theoretically educated and practically trained specialists for work in the profession of construction manager, 2) development of students' personality, including acquisition of independent learning skills, 3) promotion of competitiveness and motivation for further education. SWOT analysis of the study direction **in relation to the set goals** was done by the self-assessment working group, involving students, academic staff and industry experts. See table 1.3.1.

Table 1.3.1.

SWOT analysis

1. Preparation of theoretically and practically trained specialists for the profession of construction manager

Strengths

Weaknesses

| | |
|---|---|
| <ul style="list-style-type: none"> · Good cooperation with employers, Latvian Union of Civil Engineers, inclusion of employers' needs in the curriculum of study programmes; · High employment rate of graduates after graduation; · Stable base of internship organizations; · Practicing specialists work in the programme; · The study programme corresponds to the RTA strategy, which gives opportunities to make full use of the Academy's intellectual and material resources; · Budget places in the study direction. | <ul style="list-style-type: none"> · Insufficient increase of academic staff in special courses; · It is not possible to study the whole study programme in distance learning mode. |
|---|---|

Opportunities

- To improve the content of study courses in accordance with the requirements of construction digitization;
- To use RTA laboratory and computer classroom base for acquisition of practical skills;
- To use the potential of other RTA study directions for the introduction of social and humanitarian study courses in the free choice module.

Threats

- Risk of "overheating" of construction and possible decrease of construction volume in Latvia.

2. Development of students' personalities, including the acquisition of independent learning skills

Strengths

- Students self-government is active;
- Distance learning opportunities at RTA Centre for Lifelong Learning;
- Availability of lecturers for individual consultations (both in person and remotely).

Weaknesses

- The study programme is offered only in Latvian;
- Insufficient activity in research sector;
- Low activity in student and academic staff mobility.

Opportunities

- Distance learning opportunities at RTA;
- Use of e-course environment in the study process;
- Remote use of RTA library resources;
- ERASMUS + mobilities, including postgraduate internship.

Threats

- Demographic situation in the country;
- Covid threats in the provision of a qualitative full-time study process.

3. Promotion of competitiveness and motivation for further education

Strengths

Weaknesses

- | | |
|--|---|
| <ul style="list-style-type: none"> · Opportunity to obtain the right of independent practice in the field of construction; · Acquired basic knowledge in the field of entrepreneurship; · Demand in labor market; · Experience in recognizing learning outcomes achieved in previous education and knowledge, skills and competences acquired outside formal education or professional experience. | <ul style="list-style-type: none"> · It is not possible to continue education in the field of construction at RTA. |
|--|---|

| Opportunities | Threats |
|---|---|
| <ul style="list-style-type: none"> · Career development counseling; · Involvement in training activities of professional organizations and entrepreneurs; · Use of business incubator opportunities. | <ul style="list-style-type: none"> · Increase in the fee for in-service training courses |

In response to the weaknesses and threats of the programme identified in the SWOT analysis, RTA has taken and continues to take measures to support lecturers in increasing the competencies of the distance learning process (see Chapter 3.5), looking for solutions and new technologies in ensuring the quality of the distance learning process, including international projects that envisage the development of innovative study technologies (virtual glasses) for work in laboratories (see Chapter 4.3). In order to ensure the professional development of the teaching staff, RTA implements a professional development programme “Innovations in Higher Education”, which can be acquired free of charge by RTA teaching staff. Individual study courses in this programme can also be attended free of charge by experts in the study direction. In order to ensure the continuity of studies, RTA has concluded a cooperation agreement with LLU, which provides the possibility to continue studies for obtaining a professional bachelor's degree (agreement in annexes). Due to Covid-19, international mobility in the study programme has significantly decreased. To improve the situation, RTA has launched a virtual mobility advertising campaign until the epidemiological situation allows for the full resumption of international mobility activities.

The development plan of the study direction (Annex 3) was developed after the current accreditation of the study direction and is reviewed every year by performing a self-assessment of the study direction.

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

RTA study directions have been established in accordance with the list of study directions specified in the Cabinet of Ministers Regulations No.793 "Regulations on opening and accreditation of study directions" of 11 December 2018. The management of RTA study directions is regulated by the Regulations approved by the Senate "On study councils", "On study programme/ module/ specialization directors", "Study direction expert councils", "On faculty council". The most important collegial institutions involved in the management of the study direction are shown in Annex 4.

The study direction management structure established by RTA ensures essential RTA internal quality principles such as:

- **staff involvement** - all stakeholders involved in the implementation of the study direction - students, teaching staff, general staff, employers, graduates,
- **evidence-based process management** - each unit has clearly defined duties, rights and responsibilities,
- **continuous learning and improvement** - creating the conditions for knowledge sharing, innovation and development.

The most important role in the realization of the study direction is given to the RTA directors who form the Study direction council, which is chaired by the director of the study direction.

Director of the study programme:

- develops the study programme taking into account the demand of the relevant specialists in the labour market, which is substantiated by special surveys, statistical data and other supporting documents;
- prepares the study programme for review in collegial and advisory institutions of RTA;
- leads the process of developing a self-assessment of the programme;
- performs duties related to the realization of the study programme (preparation of study plans, coordination of study programme study results with study course study results, consultations with students and lecturers, popularization of study programme), etc. questions.

Head of the study direction:

- plans the work of the study direction council;
- organizes, leads and prepares the process of preparation of the self-assessment report, licensing and accreditation materials of the study direction, including the involvement of academic staff and students;
- organizes evaluation of the staff employed in the study programmes.

Study direction council:

- decides on all major issues of studies, methodological, scientific and organizational activities in the direction of study, including the development of study programmes/ modules, substantial changes in study programmes, organization of professional practice, methodological and organizational provision of regular, final and state examinations; management, planning, preparation and publishing of methodological and scientific literature, provision of study direction and study programme self-evaluation, cooperation with employers, LV and foreign institutions in the field of study and research activities, popularization of study programmes in the society;
- plans, coordinates and promotes the development of scientific activities, studies and scientific infrastructure, activities in study, research, etc. projects for the development of the

study direction. On 27 January 2015 RTA Senate approved the “Regulations on Study Councils at RHEI”, which also introduced a new study administration model and established a study council, which includes all study program directors.

General meeting of the study direction:

- meet at least three times a study year: at the beginning of each semester and at the end of the study year;
- nominate and approve, by a majority of the members present, the composition of the study direction council;
- evaluate information on current study programme implementation measures and tasks;
- evaluate the report of the head of the study direction on the progress made during the semester and the study year;
- evaluate the academic staff reports on the workload.

In order to work efficiently in the study direction, RTA staff is supported by:

- **Study process specialists** of the Faculty of Engineering: responsible for record keeping and organizational aspects of the study process at the faculty level.
- **Study Department specialists** of the study process: are responsible for maintenance of study direction data in LAIS, VIIS, Moodle systems, Multirank, workload planning of academic staff, maintenance of lecture list, preparation of diplomas and diploma supplements, preparation of reports, preparation of references and preparation of other documents on study issues.
- **Personnel department specialists:** prepare personnel documentation (including employment agreements), carry out personnel briefings.
- **Employees of the Lifelong Learning Centre:** organize professional development courses in higher education didactics and innovation.
- **Library:** participates in the planning of study and scientific literature, ensures availability of electronic databases, is responsible for updating the content of the RTA institutional repository; maintains the publications database of RTA academic staff.
- Project Management and Technology Transfer **Contact Point:** supports the planning and implementation of training, scientific, infrastructure projects, custom research.
- **Financial Analyst:** plans financial resources for the direction of study and study programmes.
- **ICT Research Centre:** maintains the e-environment for the proceedings of the International Scientific and Practical Conference “ [Technologies. Resources](#)” and electronic open access databases *conferences.rta.lv, journals.rta.lv*.
- **Institute of Engineering:** ensures synergy of pedagogical and scientific work, plans and implements scientific projects in engineering sciences and related interdisciplinary fields, carries out research and practical support to strengthen scientific capacity of study directions, ensures publication of conference proceeding “ [Technologies. Resources](#)” in the e-environment.

Conceptually, the management system of the study direction and its corresponding study programmes is considered as a well-considered system based on the principles of democracy, oriented towards the harmonious work of the study direction that is provided with the necessary support in all basic issues of the study direction: study process record keeping, scientific work, financial planning, lifelong learning, etc. The strengths of the management model are: a detailed division of responsibilities between the parties involved in the management process that is outlined in the department regulations and job descriptions of the staff, the procedures developed for all

aspects of the implementation process of the study direction and the respective study programmes.

Since the management model of the study direction and its corresponding study programmes cover a variety of activities aimed at the implementation and development of the study process, it implies the involvement of many departments and persons and poses several threats to effective management. First of all, there is the objectively possible human factor in the management, which can cause definite risks, such as inadequate provision of management of comprehensive processes to a management staff in their sphere, the coordination of lecturers' professional and academic activities, etc. factors.

RTA quality management policy provides several directions for mitigating management risks. These include staff consolidation, professional development activities, and the ability to resolve labor disputes in a collegial manner in accordance with the RTA Code of Ethics.

For the transparency of the management process and availability of management decisions, in 2019 RTA has launched the implementation of an electronic internal document management system focused on management quality risk prevention, consistent documentation management and operational control.

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

Admission to study programmes at RTA is regulated by the admission regulations approved by the Senate, which are based on the Cabinet Regulation No. 846 "Regulations on Requirements, Criteria and Procedures for Admission to Study Programmes". Admission to undergraduate programmes is based on prior secondary education. Students are admitted in an open and equal competition based on the results of centralized exams. The RTA admission regulations stipulate three centralized examinations with which applicants participate in the competition: Latvian language, mathematics and a foreign language. In order to select the strongest and most motivated students, RTA has defined the possibilities of receiving additional points to those applicants who have gained 1st, 2nd or 3rd place in State Olympiads in mathematics, physics, economics, English, French or Russian, graduates of the Eastern Latvia Technology High School, graduates of secondary professional education related to the field of construction and architecture - 1.5 points; 1 point for a Junior Achievement Latvia certificate holders. Admission rules for each subsequent study year are approved by the RTA in the Senate and published on the website by November 1 of the current year.

Table1.5.1.

Competition coefficient and number of students enrolled in the 1st year in the study programme "Construction" in the 1st round

| | 2016/2017 | | 2017/2018 | | 2018/2019 | | 2019/2020 | | 2020/2021 | |
|--------|-----------|------|-----------|----|-----------|----|-----------|----|-----------|----|
| | *Cc | **Sn | Cc | Sn | Cc | Sn | Cc | Sn | Cc | Sn |
| PLK(b) | 2,4 | 22 | 2,8 | 26 | 2,8 | 32 | 2,1 | 27 | 2,7 | 33 |
| PLK(m) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NLN(m) | 0 | 13 | 0 | 12 | 0 | 9 | 0 | 12 | 0 | 12 |

*Cc – competition coefficient - number of enrolled students to the number of applications.

**Sn – the number of enrolled students.

In full-time studies, there is a sustainable competition for state-funded budget places (from 2.1 to 2.8 applicants for one state-funded budget place). There is a different trend in applications for personal funding and part-time tuition, where no competition takes place, and the number of students admitted is not large. The low interest in self-funded studies can be explained by the insufficient solvency of applicants.

RTA statistics show that the majority (90%) of students who choose studies in the 1st level professional higher education programme are graduates of general secondary education and vocational secondary education institutions, 10% are applicants who have already obtained higher education.

The structure of the age of students in the study programme shows a typical EU-27 tendency - studies in the first level professional higher education study programmes are chosen by applicants with professional experience / other previously acquired higher education. In RTA there have been matriculated 27% students of the age group 20-29, 42% - 30-39 year-olds, 12% - 40-49 year-olds and 4% - 50+ year-olds.

RTA has developed and implemented procedures for the recognition of competencies acquired outside formal education or acquired through professional experience and learning outcomes achieved in former education, which are in accordance with Cabinet Regulation No. 505 [“Regulations on the Recognition of Competences Acquired Outside Formal Education or from Professional Experience and Learning Outcomes Achieved in Previous Education”](#). In accordance with the “Regulations on RTA Recognition of Competences Acquired Outside Formal Education or Professional Experience and Learning Outcomes Achieved in Previous Education” approved by the RTA Senate, the recognition procedure is performed by the Engineering Science Commission, which examines the applications of the applicants and makes a decision regarding the recognition of the learning outcomes or regarding the refusal to acknowledge the learning outcomes. All decisions are recorded in the journal of recognition of learning outcomes achieved in previous education and from professional experience, which is stored in the dean's office. In the academic year 2018/2019, the Engineering Science Commission approved seven applications for recognition of learning outcomes obtained in professional experience in professional practice and in such professional specialization subjects as “Reinforced concrete and stone constructions” (2 CP), “Organization and management of construction works” (3 CP). In the academic year 2019/2020 10 applications for recognition of professional experience in different stages of professional practice were approved: internship on the construction site (10 CP), qualification internship (10 CP). In the academic year 2020/2021 four applications for recognition of professional experience in different stages of professional practice have been approved. In total, the Engineering Science Commission has evaluated and approved 105 applications for recognition of professional experience in the study

programme. This amount can be explained by the fact that 85% of students have previous professional work experience in the civil engineering industry.

RTA has developed and in accordance with the Lisbon Convention is consistently applying the procedure for acknowledging former education when transferring from other higher education institutions to RTA, transferring from one RTA study programme to another, resuming studies after a break, after the acquisition of first/second level professional higher education and continuing studies for the acquisition of a bachelor's degree or the second level professional higher education, after studies within the framework of interstate or inter-university agreements. This process is regulated by the RTA Regulations on the Academic Acknowledgement of Study Courses.

In the academic year 2018/2019 33 equivalencies were performed: 15 transfers from other RTA study programmes, 18 transfers from other higher education institutions (RTU, DU, BIA, LLU, Turība, JAK). In the academic year 2019 / 2020 26 equivalencies were performed: 6 - transfers from other RTA programmes, 20 transfers from other higher education institutions (RTU, LMA, LLU, LU, RAI, Turība). In the academic year 2020/2021 18 equivalencies: 7 transfers from other RTA programmes, 11 - from other universities (RTU, LLU, LU, NDAL, DU). Throughout the reporting period, there is a constant interest in the study programme, including the opportunity to acknowledge the experience gained in previous education and professional experience.

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

Procedure for assessment of student achievements in RTA is designed to ensure consistent application of the student-centered approach. The principles of RTA evaluation are defined by methodological recommendations "Study quality system based on study results", regulations approved by the Senate: "[Regulation for the procedure of examination and test session in RTA](#)", "[Regulation for the state and final examinations in the RTA](#)", approved by the RTA Study Council "[Methodological recommendations for organization of students' independent work in RTA](#)".

The **main principles of assessment of study results** at RTA are:

- *Relevance of the study outcomes assessment methods to the study programme and the study outcomes defined in the study course.* The academic staff of RTA incorporates the requirements for the assessment of study results into the study course programmes, which are evaluated and approved by the study council. The assessment focuses on the compliance of the assessment requirements and procedures with the achievement of the goals of the study program, the overall workload of students, as well as preventing any possible duplication of study content.
- *The clarity, consistency and public availability of requirements for the assessment of learning outcomes.* Academic staff of RTA incorporates requirements for assessment of study results into the study course programme, which are placed on RTA e-course website rta.lv and is accessible to students upon commencement of study course. If the teaching staff delays with the placement of the study programme on the e-course website, they receive a repeated invitation and a reminder that the requirements for the assessment of learning outcomes must not change during the course of implementation of studies.
- *Equalized application of learning outcomes assessment measures during the study course,*

providing that the form of the examination consists of the results of formative assessment during the semester (at least 40% of the assessment) and assessment at the end of the study course (60%). Such a system allows to follow the progress of students' study succession, motivates students to purposeful study process during the semester, as well as facilitates the psychological and physical workload of examinations during the sessions.

- *Assessment of students' independent work*, which is a compulsory part of the study process, its content and evaluation are reflected in the content of study courses. The Council for the Study direction decides on the most suitable types of independent work for the study direction, agreeing on the amount of independent work, possibility of forming larger groups of students for independent work, and other issues.
- *The right of students to request explanations and to challenge the assessment in a specific manner* provided in the Regulations on examination and tests of study courses, on state and final examinations.
- As far as possible, *several evaluators* participate in the evaluation of learning outcomes. Such system in RTA works in defence of study research work and professional practice.
- Learning outcomes in the compulsory and limited elective part are graded in a 10-point scale (exam or differentiated test), while the assessment "passed"/ "failed" is allowed in the elective part.

All information about the summative assessment of study results is available to students in the RAIS environment, where each student has access. The results of formative assessment are only partially available on the RTA e-course website ekursi.rta.lv

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

Principles of Academic Integrity and their application in RTA are governed by the Senate-approved regulations on "Regulations on plagiarism control and prevention in RTA", which is consistent with [Copyright Law](#), Code of Ethics for Scientists, [Code of ethics of RTA](#) and [RTA Students regulations](#). Plagiarism control and prevention measures at RTA are applied to the study process and to the academic and scientific activities of the academic staff.

During the study process, measures to control and prevent plagiarism are taken during formative assessment by developing, submitting, and defending written and oral works that include elements of research work, including work with sources, statistics, and literature (study paper, term paper, essay, report, presentation, article, etc.), in the process of designing, evaluating and defending final study research papers, as well as in academic and scientific activities in publicly available study materials, scientific articles and monographs written by the academic staff.

To control plagiarism, RTA uses publicly available anti-plagiarism platforms, such as plag.lv, plagium.com, plagiarismchecker.com, plagiarisma.net, etc.

Since 2014 the final study research work at RTA is tested in the unified computerized plagiarism control system of the universities of Latvia. Each case of data coincidence is evaluated at the study direction council meeting, inviting the director of the respective study programme and the supervisor of the final study research work. The study direction council may request oral or written explanations from the student whose work is suspected of plagiarism. If the findings are qualified as

plagiarism, the Study council shall propose to the Dean the student's exmatriculation. The risks of plagiarism identified in the direction of architecture and construction mostly show a small percentage of coincidence, because in most of the final works the technical task and the legislation coincide, to which the works are also referred to. The risks of plagiarism assessed during the reporting period are summarized in the table. 1.7.1.

Table 1.7.1.

| Plagiarism risks assessed during the reporting period | | |
|--|------------------|---|
| Academic year | Number of thesis | Comments |
| 2014/2015 | 6 | Plagiarism has not been detected |
| 2015/2016 | 2 | Plagiarism has not been detected |
| 2016/2017 | 8 | 6 - plagiarism has not been detected 2 - the study direction council has made a decision to request to develop a thesis on another topic next year |
| 2017/2018 | 11 | Plagiarism has not been detected |
| 2018/2019 | 9 | 7 - plagiarism has not been detected 2 - the study direction council has made a decision to request to develop a thesis on another topic next year |
| 2019/2020 | 7 | Plagiarism has not been detected |
| 2020/2021 | 7 | Plagiarism has not been detected |

In the academic year 2019/2020 RTA is working to connect automated plagiarism identification tools to RTA's electronic journal site <http://journals.ru.lv> , which also publishes articles written by the study direction teaching staff and students.

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

Information about the study field and the corresponding study programmes is available on RTA website and LAIS system (see Table1.8.1).

Table 1.8.1

Information about the study direction and study programme

| Information | Website | Type of access | Person in charge |
|---|---|----------------------|---|
| Study programmes implemented by RTA | RTA website - https://www.rta.lv/rta_istenotas_studiju_programmas . | free access | Specialist of the study process of RTA Study Department |
| RTA study direction self-assessment reports | RTA website - https://www.rta.lv/pnzs | free access | Specialist of the study process of RTA Study Department |
| RTA study programme register, study plans | LAIS - https://luis.lu.lv/pls/lu/stud.menu?l=1&mn=K | for authorized users | Specialist of the study process of RTA Study Department |

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

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

In order to achieve the aims and results of the study programmes, continuous improvement, development and effectiveness of the study programme and corresponding study programmes, RTA has established an internal study quality assessment and control system (Quality System), where the following areas are subject to internal evaluation:

- compliance of the study process with RTA development strategy (development policy);
- quality of the academic staff;
- quality of study programmes;
- quality of cooperation with applicants and graduates;
- quality of the study process;
- quality of infrastructure;
- financing and quality of economic activity.

The quality of implementation of the study “Architecture and Civil Engineering” and the corresponding study programmes is regularly evaluated according to the internal evaluation procedure of study directions and programmes approved by RTA Study Council. Until 2020 a multi-level process was applied in quality evaluation:

1. Each year, by the end of the 1st semester, a self-evaluation report shall prepared by the Dean's approved self-evaluation team, which shall assess the areas defined in the Quality System. When preparing the self-evaluation report, the working group collects statistics of the previous study year and the results of the surveys carried out. If necessary, additional views are sought from experts selected by the self-assessment team.
2. The self-evaluation of the study direction was successively discussed in the Study direction council, Study expert council and in the Study council and approved by the Senate. Proposals formulated during the discussion process are incorporated into the study programme or its implementation procedures.

Each area of the Quality System is documented in RTA but it does not exclude improvements. The RTA Quality System is designed to provide regular feedback on the quality of study implementation. This is achieved in several ways:

- Since 2020, RTA has been implementing a self-evaluation procedure of successive study directions and study programmes, identifying and performing regular evaluation of the most important quality indicators of the education process in accordance with the evaluation calendar.
- annual surveys of students, graduates and employers, by performing their evaluation and making improvements initiated in the evaluation of the surveys;

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

The study programme development and revision at RTA is regulated by [Regulation on academic and vocational studies and study programs at the Rezekne academy of Technologies](#) approved by the Senate, which determine new study programme planning schedule, parties and procedure. The main principles of study programme design are:

- *relationship between study programme development and key strategic and planning documents*” [Operation and development strategy of RTA 2016-2023](#) and Study programme consolidation plan 2018-2023. Regarding the study direction “Arhitecture and Construction” in the Development Plan 2018 it was found that the study direction corresponds to RTA strategy, the study direction has a stable demand of students, the study direction corresponds to the demand of the labor market and possibilities to develop a new bachelor's level study programme "Civil engineering" should be evaluated in order to provide students with the opportunity to continue their education for the 5th professional qualification level in construction.
- *study programme development is based on stakeholder collaboration.* For the development of study programmes, a working group is established, which involves the teaching staff, general staff and students. Before considering a new study programme in the Faculty Council, it must be evaluated by the Study Expert Council. Before the study programme is approved by the Senate, it is independently evaluated by independent experts in the

academic or professional sector.

- *regular review of the content and implementation of the study programmes*, which is provided in accordance with the procedure for the preparation and approval of annual study plans and the study direction self-evaluation process. Every year the content of the study programme, the conformity of the study results of the study programmes with the study results of the study programme, and the compliance of the teaching staff with the implemented study programmes are evaluated in the annual study plan approval process. After the approval of the study plans by the faculty council, the teaching staff updates the study course programmes and submits the updated versions for inclusion in the LAIS system, as well as post them on the RTA e-course website.
- *providing regular feedback* through surveys of students (at least twice a year), graduates and employers (at least once a year). The results of the surveys are discussed at the study quality commission and study council meeting and taken into account, as far as possible, when reviewing the content of the study programme or the implementation procedures. Students submit their proposals for improvement of the study process.
- *cyclical external evaluation of study programmes* in accordance with the accreditation procedure established by the Republic of Latvia. An important aspect of external evaluation is the recommendations of the expert commission for the improvement of the study direction and study programmes, which are included in the study direction plans and study programme development plans, outlining the schedule, resources and responsible persons for their implementation.

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

All normative documents are available on RTA's internal server, which is accessible to all students in all RTA premises. The most important legal acts regulating students' rights are summarized in the publication "[My Academy](#)". The procedures for the submission of student complaints and proposals are provided for in the RTA internal regulations (see Table.2.3.1).

Table.2.3.1

Students' right to submit complaints and proposals provided for in RTA internal regulations

| | | |
|----------------------------------|-------------------------------------|----------------------------|
| Complaint about exmatriculation | to rector | Student regulations (4.5) |
| | possibility of appeal to the Senate | Student regulations (4.5) |
| Suggestions on the study process | in the Dean's Office | Student regulations 3.3.4. |

| | | |
|---|---|---|
| To lodge an appeal against assessment of State Examination | to the Vice-Rector for studies and science | Regulations on state and final tests (27-33) |
| To lodge an appeal against assessment of examination and test | to the Dean | Regulations on examination and tests of study courses (6.1. - 6.5.) |
| To appeal the decisions of the RTA Academic Arbitration Court | In accordance with the procedures prescribed by the <u>Administrative procedure law</u> . | RTA Constitution |
| <p>The Students' Council has the right to:</p> <ul style="list-style-type: none"> ● to request and receive information and explanations from authorized representatives of any RTA department on issues related to interests to students, ● to use veto rights in the Constitutional Assembly, the Senate and the Faculty Council on issues affecting students' interests, ● to participate in RTA decision-making bodies and participate as observers in tests and examinations in accordance with RTA legislation; ● to propose the adoption, amendment and repeal of laws and regulations of the Republic of Latvia and RTA affecting the interests of students. | | RTA Student Self-Government Regulations |

RTA QMS defines RTA policy for dealing with students' complaints. RTA QMS requires person in charge to record complaints, feedback, suggestions, incidents and risks, and to inform about it the staff and the process supervisor and to solve them within his/her competence and authority, that helps to manage and strengthen relationship with students, coordinate actions, solve problems and complaints, and get regular feedback. Student satisfaction is measured and results are used to make improvements.

The Whistleblowing Law came into effect in Latvia in 2019. Following this law, an [internal whistleblowing system](#) has been created for RTA, which is available on the RTA website. A whistleblower (including the student) is entitled to blow the whistle especially on the following violations: failure to act and negligence of officials, or abuse of the official position by them, corruption, fraud, environmental safety threat, labour safety threat, infringement of human rights etc.

During the implementation of the study programme "Construction" there have been only a few cases when complaints were made. There have been written appeals with objections to the assessments in the qualification papers, which were examined in accordance with the procedure established by the RTA. There have also been some applications for assessment in a particular course of study. The abovementioned situations were resolved and there have not been received any other complaints from students.

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

RTA QMS identifies the information and knowledge needed for strategic and operational activities, ensuring that the information must be reliable and easily accessible to the eligible persons. The QMS system defines that RTA collects and manages the necessary data in its information systems, analyses, reports and publishes the data to respective user groups, employees and external users to ensure access to the required information, ensuring their security and protection of intellectual property. RTA regularly collects data related to the study process and scientific activities, submits it to external data managers in accordance with national procedures or uses it to improve the study process (see Table 2.4.1). RTA collects internal statistics to ensure more efficient programme management, to evaluate the quality of study programmes, to get feedback and to get suggestions from internal and external evaluators to improve the quality of the study programme.

Table 2.4.1

Areas of statistics composed by RTA

| Information to third parties: | Internal statistics: (every semester / study year): |
|--|--|
| <ul style="list-style-type: none"> ● Central Statistical Bureau - study directions, study programmes, number of students, enrolment results, distribution of students according to different criteria, academic staff, budget, etc. ● MoES - studies in state-funded budget places, competition rates, tuition fees, graduates, etc., ● U-Multirank - On-demand information about programme, ● VIIA - Erasmus + Mobility Statistics. | <ul style="list-style-type: none"> · Student attendance is recorded on the website created by RTA vis.rta.lv · RTA has requested data from the State Employment Agency on RTA graduates registered as unemployed; · Qualification of the academic staff (graduate, elected staff); · Monitoring risk of plagiarism by faculty and study direction; · Student, graduate, and employee survey data. |

Information collected by RTA is used for improving the study direction. **Data on student attendance** are used for regular monitoring of the number of students. This is especially important in groups of foreign students where class attendance is an important condition for the legitimacy of a residence permit. Starting from 1 September 2019, class attendance for all students is recorded on the website vis.rta.lv. Since 2020 students' attendance statistics is registered in ekursi.rta.lv environment. The education process specialist checks the class attendance every month. If it is found that a student has not attended classes for more than a month, the education process specialist contacts the student and finds out the reasons for their absence. If the reason is justified, solutions are sought how the student can acquire the scope of missed classes and take overdue formative tests.

Every year, RTA requests data from the State Employment Agency on RTA graduates who have

registered as **unemployed**. According to the monitoring data of graduates of higher education institutions of the Ministry of Education and Science, in 2017 18 graduates graduated from the study programme, 3 of them were registered as unemployed, but 15 were employees registered by the place of residence in Latgale region. In 2018, 26 graduates graduated from the programme, 1 of them was registered as unemployed, 1 - as economically inactive. According to the place of residence, 15 employed graduates are registered in Latgale region, 6 - in Vidzeme, 3 - in Zemgale, 1 - in Riga, 1 - in the region of Riga. According to the data of the State Employment Agency, none of 14 graduates in 2000 is registered as unemployed in the Study Programme. Monitoring data of MES graduates shows that employment % (calculated to the known ones) at the college level for RTA graduates is 82.9%, which exceeds the indicative 80% employment threshold. Employment in higher qualification (1 managers; 2 senior specialists; 3 specialists; 0 NAF professions) basic groups of professions (according to the LR Classification of Occupations) for RTA graduates makes up 69%, which also significantly exceeds the indicative 47.1% threshold.^[1]

Statistical indicators of the academic staff are also important for the quality of the education process. The most important ones are the proportion of elected and unelected academic staff in the study programme and the proportion of graduate academic staff at RTA in general and in the study direction (see Chapter 3.6).

Statistics on RTA academic staff are generally maintained by the RTA Staff Department. Statistical data on the academic staff in the study directions and the corresponding study programmes are analyzed by the study direction self-assessment working group.

^[1] Brief description of college and bachelor level graduates.IZM.
<https://www.izm.gov.lv/lv/media/2116/download>

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

The goal of the RTA Constitution is to provide students with *a competitive academic and professional higher education in the European education area* that is in line with the level of scientific development and Latvian cultural traditions, which is impossible without harmonization with the regulatory enactments regulating the European higher education and science area. Since its inception, RTA has been strategically based on the principles of the Bologna Process and aligned with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). See Table 2.5.1.

Table 2.5.1

Description of ESG Part 1 standard integration at RTA

| ESG standards of part 1 | Integration characteristics in RTA |
|-------------------------|------------------------------------|
|-------------------------|------------------------------------|

| | |
|---|---|
| Quality assurance policy | It was developed by RTA in 2018 and is now publicly available. Since 2014 RTA has an internal study quality assessment and control system. Descriptions of key quality assurance processes and regulatory frameworks have been developed. |
| Program development and approval | RTA has established procedures for developing and approving study programmes. They aim to define the objectives, the expected learning outcomes for the qualification acquired through the programme and are clearly defined and in line with the EQF standards. |
| Student-centred learning, teaching and assessment | Student-centred approach in RTA Strategy has been identified as one of the main learning approaches. RTA takes into account and respects the diversity of students and their needs, considers and applies various ways of implementing the programmes, designs appropriate learning pathways, uses various pedagogical methods according to particular circumstances, regularly evaluates and applies teaching methods and pedagogical methods; stimulates student's independent learning, while providing guidance and support to the teaching staff, as well as promotes mutual respect in student-lecturer relations. RTA has appropriate procedures for resolving student complaints. |
| Matriculation of students, course of studies, recognition of qualifications and certification | RTA has established transparent procedures for matriculation, ex-matriculation, recognition of qualifications, recognition of prior education and professional experience. RTA works with quality assurance agencies at AIC to ensure that qualifications are harmonized across the country. |
| Teaching staff | RTA has developed Human Resources Development Plan 2018-2023, Academic Personnel Development Guidelines 2016-2020. Professional development of the academic staff has been ensured at RTA, a system of synergy of pedagogical and scientific work has been established. The internal rules regulate the election of the teaching staff. RTA has developed a system for evaluation of the quality of work of teaching staff and application of the quality factor to the teaching staff remuneration. |
| Teaching resources and student support | RTA provides physical resources (libraries, study equipment and IT, etc.), human resources (teaching staff, general staff, etc.) and support services for student academic mobility and professional practice. |
| Information management | RTA collects and manages the necessary data in the information systems, analyses the data, prepares reports and publishes it for access to the respective user groups, employees and external users. |

| | |
|--|--|
| Provision of information to the public | RTA publishes a self-assessment of institutional and study directions on its website. It regularly publishes the information on all current topicalities on the website www.rta.lv , including admission rules, programmes offered and selection criteria for admission, and information on expected learning outcomes of the programmes, the qualifications to be conferred, the teaching, learning and assessment procedures, minimum mark for successful evaluation and learning opportunities available to students in its site ekursi.rta.lv . |
| Programme monitoring and regular reviews | RTA conducts annual self-evaluation of study programmes, including student and expert councils. |
| Cyclic external quality assurance | RTA performs cyclic external quality assurance in accordance with the ESG. |

In the period from 2019, more attention is paid to the quality assurance policy, which has been renewed and is being implemented, replacing the study quality management system developed in 2009. Another challenge is the change of the internal self-assessment model of study directions and corresponding study programs, which is renewed and implemented from 2020.

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

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

The financial provision for the study programmes of RTA study direction “Architecture and Construction” in 2020 was 177 thousand EUR, which includes state budget financing and RTA own revenues (see Table 3.1.1.)

Table 3.1.1

Financial resources for the implementation of study programs corresponding to the study field (EUR)

| Funding | 2016. EUR | 2017. EUR | 2018. EUR | 2019. EUR | 2020. EUR |
|---------|--------------|--------------|--------------|--------------|--------------|
|---------|--------------|--------------|--------------|--------------|--------------|

| | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| State budget funding for the study direction (without scholarship funding) | 123572 | 123562 | 134621 | 140173 | 140173 |
| Own revenue - tuition fees for students of the study direction | 31770 | 35251 | 42731 | 40800 | 36 600 |
| Total funding | 155342 | 158813 | 177352 | 180973 | 176773 |

Funding of science base and funding of research performance are not divided by study directions, but is allocated to RTA for the provision of scientific activities (remuneration of research staff, business trip expenses, grant funding, database subscriptions, capital expenditures) and scientific institutes, while the academic staff involved in science represent different study directions. In 2020, RTA research revenues amounted to almost EUR 720 thousand EUR (see Table 3.1.2).

Table 3.1.2

RTA funding for provision of academic staff research (creative) activities (EUR)

| Funding | 2016, EUR | 2017, EUR | 2018, EUR | 2019, EUR | 2020, EUR |
|--|----------------|------------------|------------------|----------------|----------------|
| Funding of science base | 152 622 | 194774 | 209 367 | 190 347 | 191 094 |
| Funding of national research programmes | 56 619 | 77 401 | 87 065 | 91 916 | 326 952 |
| Performance funding | 87 738 | 39 843 | 138 087 | 104 009 | 80 480 |
| Other State budget revenue | 36 531 | 10 000 | | | |
| EU Structural Funds | 345 945 | 786 571 | 1 143 562 | 347 690 | 90 712 |
| Revenue from contract work with legal entities of the Republic of Latvia | 53 011 | 14 841 | 21 536 | 12 182 | 28 488 |
| Total funding | 732 466 | 1 123 430 | 1 599 617 | 746 144 | 717 726 |

Funding for RTA library collections is not divided by study directions, because often the library resources in the process of studies are used by students of several study directions (see Table 3.1.3.). The most important literature in each course is updated in cycles, but the most relevant additional literature items are updated on a regular basis.

Table 3.1.3

| Expenditure library collections | 2016, EUR | 2017, EUR | 2018, EUR | 2019, EUR | 2020, EUR |
|------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Periodicals | 3 814 | 2 940 | 3 009 | 3 333 | 3369 |
| Books | 11 402 | 12 102 | 8 206 | 7 419 | 12407 |
| Electronic documents and databases | 16 166 | 19 184 | 15 828 | 7 086 | 2930 |
| Total funding: | 31 382 | 34 226 | 27 043 | 17 838 | 18166 |

Funding for student council is provided in the amount of at least one of two hundredth of the state funding for the study process and tuition fees each year, and fluctuates around twelve thousand euros per year (see Table 3.1.4).

Table 3.1.4

| Funding for RTA Student Council (EUR) | | | | | |
|---|------------------|------------------|------------------|------------------|------------------|
| Funding | 2016, EUR | 2017, EUR | 2018, EUR | 2019, EUR | 2020, EUR |
| Funding for student council, EUR | 11 668 | 12 422 | 12 729 | 12 331 | 12856 |
| State budget funding for the study process, EUR | 1 926 867 | 2 001 323 | 2 076 881 | 2 162 918 | 2242195 |
| Tuition fee income, EUR | 406 790 | 482993 | 468 832 | 303 241 | 329038 |
| Total income from the study process, EUR | 2 333 657 | 2 484 316 | 2 545 713 | 2 466 159 | 2571233 |
| Student council funding ratio, % | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |

RTA calculations show that the direct costs of the full-time study form of the first level professional higher education study programme "Construction" (remuneration of academic and general staff) are 1140.00 EUR / 75% per one provisional student per year, indirect costs (expenses for ensuring RTA operation, including library, land tax, rent of premises, rent, building maintenance costs, telephone subscription and service costs, utilities, current repairs, special programmes, etc.) per 1 provisional student per year is 380.00 EUR / 25%. In total, the study costs per student per year are estimated in the amount of 1520.00 EUR, which does not exceed the costs of European countries for the preparation of one student in a similar specialty.

RTA calculations show that the direct costs of the part-time study form of the first level professional higher education study programme "Construction" (remuneration of academic and general staff) are 915.00 EUR / 75% per one provisional student per year, indirect costs (expenses for ensuring RTA operation, including library, land tax, rent, rent, building maintenance costs, telephone

subscription and service costs, utilities, current repairs, special programmes, etc.) per one provisional student per year is 305.00 EUR / 25%. In total, the study costs of one student per year are estimated in the amount of 1220.00 EUR, which does not exceed the costs of European countries per one student in a similar specialty.

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

RTA owns a 4.2hectare lot at 115 Atbrivosanas aleja, where a campus is being built, bringing together educational and scientific resources in a single location, thus ensuring a much higher quality, attractive and, above all, rational and economically efficient infrastructure. The study process at RTA is implemented in four study blocks. The total area of the central building at 115 Atbrivosanas aleja is 4844.5 m². For the study process there are used 19 classrooms with a total area of 2059.4 m². Students and academic staff have access to all necessary resources for the study process. All buildings are accessible to people with special needs, equipped with an entrance and indoor lifts.

The Information Technology Centre with two classrooms and two spacious computer classes is used for the study process. The building of the Faculty of Engineering houses a large and modern library and a reading room, which are accessible to students. There are two computer rooms with an area of 104.9 m² and 97.9 m² with 25 and 21 computers.

The material and technical facilities are constantly updated and improved. The lecture rooms are equipped with new and comfortable furniture, the air conditioners are installed, all the lecture rooms (100%) are provided with the necessary equipment, i.e. boards, screens, blinds, overhead projectors etc. All computers are connected through a computer network. Lecturers and students can use the *open-access Internet and Wi-Fi network*. Video and audio equipment as well as instructional films are used to learn foreign languages. RTA has acquired equipment for translation of small conferences and international seminars. Faculty of Economics and Management has an agreement with Rezekne City Council and, if necessary, it can arrange larger conferences, providing sign language interpretation in at least two languages.

The co-creation space at the RTA center for applied research “SalesLab” is used for the implementation of the study direction “Management, administration and real estate management”. RTA students have access to a student’s hostel at 22 Maskavas Street, but it is scheduled that in 2020 a new student hostel will be opened on the RTA campus at 115 Atbrivosanas aleja, which is currently undergoing renovation. In order to satisfy students' needs for sports and interests RTA provides premises for sports activities, dancing, choir activities, professional and interest education programmes.

Faculty of Engineering (IF) material and technical provision

The material, technical and informative base of RTA IF fully ensures the successful implementation of all study programmes. The equipment of all laboratories / workshops is freely available to every IF student, lecturer and researcher on weekdays from 7:30 to 19:30, at weekends from 7:30 to

17:30. 6 engineers and 2 laboratory assistants are involved to provide help in specific laboratories and when working with special equipment. They provide support to lecturers during classes, to students in the development of their research work, qualification papers and course projects, to scientists in elaboration of research, development, production and approbation of experimental stands and prototypes. 3 IT specialists ensure the functioning of IF computer equipment (computers, interactive whiteboards, projectors) and the Internet. The available software can be freely used by any IF student, lecturer or researcher.

Table 3.2.1.

Information about the provision of the RTA Faculty of Engineering with auditoriums

| No. | Auditorium | Location | Area, m ² | Number of seats |
|-----|--|----------------------------|----------------------|-----------------|
| 1. | Auditorium 105 | Atbrīvošanas aleja 115, K4 | 158 | 96 |
| 2. | Auditorium 111 | Atbrīvošanas aleja 115, K4 | 95 | 60 |
| 3. | Auditorium 112 | Atbrīvošanas aleja 115, K4 | 61 | 30 |
| 4. | Auditorium 113 (Laboratory of Flow Mechanics and Hydraulics) | Atbrīvošanas aleja 115, K4 | 57 | 16 |
| 5. | Auditorium 130 | Atbrīvošanas aleja 115, K4 | 63 | 30 |
| 6. | Auditorium 118 (CAD/CAE/CAM laboratory) | Atbrīvošanas aleja 115, K4 | 70 | 10 |
| 7. | Auditorium 132 | Atbrīvošanas aleja 115, K4 | 70 | 30 |
| 8. | Auditorium 013 | Atbrīvošanas aleja 115, K4 | 94 | 60 |
| 9. | Auditorium 015 (Laboratory of Electrical Engineering, Electronics and Electric Drives) | Atbrīvošanas aleja 115, K4 | 130 | 36 |
| 10. | Auditorium/conference and presentation hall 308 | Atbrīvošanas aleja 115, K4 | 106 | 50 |
| 11. | Auditorium 102 | Atbrīvošanas aleja 115, K3 | 64 | 30 |
| 12. | Computer room 201 | Atbrīvošanas aleja 115, K3 | 44 | 10 |

| | | | | |
|--------|-------------------|-------------------------------|------|-----|
| 13. | Computer room 203 | Atbrīvošanas aleja 115, K3 | 109 | 20 |
| 14. | Computer room 204 | Atbrīvošanas aleja 115, K3 | 99 | 20 |
| Total: | | | 1220 | 498 |

All auditoriums are equipped with interactive whiteboards (8 pcs.) or multimedia projectors (10 pcs.). There are approximately 100 computers in the faculty (excluding the library) that can be used by students in the study process; most of these computers are connected to the internet. Taking into account that the total number of students at the Faculty of Engineering (including part-time) is about 600, it can be concluded that the number of existing laboratory and auditorium premises, area, workplaces, computers and presentation equipment at the faculty fully meet the needs of the study process. Wi-Fi is freely available throughout RTA premises. All rooms are accessible for people with special needs.

RTA has purposefully carried out modernization of material and technical base in engineering programmes, including attracting project funding. Sub-activity 3.1.2.1.1. "Modernization of premises and equipment of higher education institutions for improving the quality of study programmes, including providing opportunities for acquiring education programmes for persons with functional disabilities", "Construction of the building and laboratory of the Faculty of Engineering of Rezekne Higher Education Institution and purchase of equipment " project implementation period 15.04.2010 - 31.10.2015. (project number 010/0117 / 3DP / 3.1.2.1.1 / 09 / IPIA / VIAA / 028). As a result of the project, laboratory equipment was purchased for 4 million EUR, but 5.8 million EUR were invested into the construction of the new building of the Faculty of Engineering. The laboratories that have been established and equipped are as follows:

1. Physical process laboratory equipment;
2. Laboratory equipment for electronics, electrical engineering and electric drive;
3. Computer network and telecommunications training class;
4. Laboratory equipment for mechanical research of materials;
5. Flow mechanics, pneumatics and hydraulics training class;
6. Mechatronics training class;
7. Ecology and environmental protection training class;
8. Chemical process laboratory equipment;
9. Microbiology and biotechnology laboratory equipment;
10. Ecotechnology laboratory equipment;
11. CAD / CAE / CAM training class;
12. Mechanical workshop equipment;
13. Sample preparation equipment;
14. Engineering geology and soil mechanics laboratory equipment;
15. Gas cylinder and compressor room equipment;
16. Laboratory equipment for ensuring environmental health and human living conditions;
17. Student creative workshop equipment.

In summer 2014, a modern building of the Faculty of Engineering corresponding to the level of European education and science with modern equipment for the study and research process opened its doors. When developing the laboratories of the Faculty of Engineering, they were equipped with the most universal equipment that can be used by students of various study

programmes.

The material and technical base of the RTA Faculty of Engineering is sufficient for the implementation of the study programme “Construction”, research and practical work in laboratory conditions both for students and academic staff. The virtual tour of the RTA premises can be viewed here https://www.rta.lv/inzenieru_fakultate_360

Software

For the information on available software, see table 3.2.2.

Table 3.2.2.

Information about software available to students and lecturers

| Available to all RTA students and lecturers | |
|---|--|
| Microsoft Office365 | The current version is maintained by subscribing to the update and maintenance service |
| Google, G-suite for education | |
| Available to all students and lecturers of the Faculty of Engineering | |
| Microsoft Azure Dev Tools for Teaching | |
| Access 2016 | Database |
| Agents for Visual Studio 2019 (version 16.0) Test Agent | Developer Tools |
| Agents for Visual Studio 2019 (version 16.0) Test Controller | Developer Tools |
| Azure DevOps Server 2020 - DVD | Productivity Tools |
| Azure DevOps Server 2020 - Web Installer | Productivity Tools |
| Azure DevOps Server Express 2020 - DVD | Productivity Tools |
| Azure DevOps Server Express 2020 - Web Installer | Productivity Tools |
| Datazen Enterprise Server | Analytics |
| Machine Learning Server 9.3.0 for Hadoop | AI + Machine Learning |
| Machine Learning Server 9.3.0 for Linux | AI + Machine Learning |
| Machine Learning Server 9.3.0 for Windows | AI + Machine Learning |
| Machine Learning Server 9.4.7 for Hadoop | AI + Machine Learning |
| Machine Learning Server 9.4.7 for Linux | AI + Machine Learning |

| | |
|--|-----------------------|
| Machine Learning Server 9.4.7 for Windows | AI + Machine Learning |
| Machine Learning Server for Windows | AI + Machine Learning |
| Microsoft Hyper-V Server 2012 R2 | Compute |
| Microsoft Hyper-V Server 2019 (updated Sept 2019) | Compute |
| Microsoft R Client 9.4.7 | Database |
| Microsoft R Server 9.1.0 for Hadoop | Database |
| Microsoft R Server 9.1.0 for Linux | Database |
| Microsoft R Server 9.1.0 for Teradata | Database |
| Microsoft R Server 9.1.0 for Windows | Database |
| Name.com domain name and security | Security |
| Project Professional 2019 | Productivity Tools |
| Remote Tools for Visual Studio 2019 (version 16.0) | Developer Tools |
| SharePoint Server 2019 Language Pack | Productivity Tools |
| Sharepoint Server 2019 Standard | Productivity Tools |
| Skype for Business Server 2019 | Productivity Tools |
| SQL Server 2019 Developer | Database |
| SQL Server 2019 Developer | Database |
| System Center Data Protection Manager 2019 | Operating System |
| System Center Operations Manager 2019 | Operating System |
| System Center Orchestrator 2019 | Operating System |
| System Center Service Manager 2019 | Operating System |
| System Center Virtual Machine Manager 2019 | Operating System |
| Visio Professional 2019 | Productivity Tools |
| Visio Professional 2016 | Productivity Tools |
| Visual Studio 2019 for Mac | Developer Tools |
| Visual Studio Code | Developer Tools |
| Visual Studio Community 2019 (version 16.0) | Developer Tools |

| | |
|--|-------------------|
| Visual Studio Enterprise 2019 | Developer Tools |
| Visual Studio for Mac | Developer Tools |
| Windows 10 (consumer editions), version 2004 - DVD | Operating System |
| Windows 10 Education N, version 20H2 (updated Nov 2020) - DVD | Operating System |
| Windows 10 Education, version 20H2 (updated Nov 2020) - DVD | Operating System |
| Windows 10, version 2004 or 20H2 10C Local Experience Packs (LXPs) (released Nov 2020) | Operating System |
| Windows 10, version 2004 or 20H2 11C Local Experience Packs (LXPs) (released Dec 2020) - DVD | Operating System |
| Windows 10, version 2004 or 20H2 1C Local Experience Packs (LXPs) (released Feb 2021) - DVD | Operating System |
| Windows 10, version 2004 or 20H2 2C Local Experience Packs (LXPs) (released Mar 2021) - DVD | Operating System |
| Windows 10, version 2004 or 20H2 9B Local Experience Packs (LXPs) (released Oct 2020) | Operating System |
| Windows 10, version 2004 or 20H2 9C Local Experience Packs (LXPs) (released Oct 2020) | Operating System |
| Windows 10, version 2004 or 20H2 Language Packs (released May 2020) | Operating System |
| Windows Server 2016 Datacenter | Operating System |
| Windows Server 2019 Datacenter (updated Sept 2019) | Operating System |
| Windows Server 2019 Essentials (updated Sept 2019) | Operating System |
| Windows Server 2019 Features on Demand | Operating System |
| Windows Server 2019 Language Pack | Operating System |
| Windows Server 2019 Standard (updated Sept 2019) | Operating System |
| WintellectNow | Learning Services |
| The current version is maintained - by subscribing to the update and maintenance service | |

Specialized software for architecture and construction direction

| | |
|---|---|
| 3DS SolidWorks Edu. Edition Network Classroom Plus license; 100 workstations with the possibility to install both in auditoriums and in student computers. | The current version is maintained by subscribing to the update and maintenance service. |
| MathWorks MATLAB - 20 workstations Simulink - 10 workstations Control System Toolbox - workstations Partial Differential Equation Toolbox - 10 workstations Symbolic Math Toolbox - 10 workstations System Identification Toolbox - 10 workstations Statistics Toolbox - 10 workstations | The current version is maintained by subscribing to the update and maintenance service. |
| Comsol Multiphysics Class Kit licenses; 30 workstations with the possibility to install both in auditoriums and in student computers.. | The current version is maintained by subscribing to the update and maintenance service. |
| Autodesk AutoCad 2020; 125 workstations with the possibility to install both in auditoriums and in student computers. 3ds Max; 125 workstations with the possibility to install both in auditoriums and in student computers. | |
| GIS ArcGIS 10.2 for Desktop Advanced SU; 1 workstations | |
| CorelDRAW Graphics Suite X7 Education Lic; 15 workstations | |
| Sparx Enterprise Architect; 30 workstations | |
| Multisim™ for Education; 10 workstations | |

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

RTA Bibl The RTA Library is located at 115 Atbrivosanas aleja in the k-4 block. In 2016, the RTA Library was re-accredited as a local library.

The structure of the library consists of a reading room, a subscription to study and branch literature, a collection and cataloging sector, a bibliography and information sector.

The library is open to students and provides access to information resources. Library opening hours at the beginning of each academic year are reviewed basing on faculty demand and actual user attendance statistics by day and hour. Twice a month the library is open to users on Saturdays.

The library is accessible to people with reduced mobility. See Table 3.3.1 for a description of the library facilities.

Table 3.3.1

Library premises, suitability for continuous study and research work

| Library premises | Indicators/ evaluation |
|---|--------------------------------|
| Total area of premises (m ²) <i>When working in the reading room, one can use the reading room computers or come with their own computer and connect to the Wi-fi network.</i> | 459 |
| A reading room (m ²) | 418.8 |
| Number of reader work places in the library | 39 |
| Technical condition of the premises (good, satisfactory, repairs needed, emergency) | good |
| The last time a reconstruction, overhaul or routine remodelling has been done | The building was build in 2014 |

The library has two individual rooms where students can work seamlessly. The reading room is equipped with a pouffe lounge area. RTA library provides all traditional services, including e-environment. The electronic catalogue reflects information about all books and magazines in the library's collection.

In order to provide qualitative support to RTA educational and scientific process, special attention is paid to users' awareness, providing more opportunities for searching e-resources and information retrieval, educating and consulting users on information literacy. Library staff is constantly providing assistance and information to its users. In 2020 1181 inquiries were provided during the study year.

The library collection corresponds to RTA study programmes and directions. The most recent literature in the relevant field is regularly purchased, and most of the funding is used for English books in the field (for an overview of the literature available at RTA, see Table 3.3.2).

In accordance with the "Regulations on the Provision of Literature", book requests are regularly submitted to the library. For a more convenient and faster submission process, a Form for replenishing library stock was created, which is available in an electronic form in the RTA document management system.

Books purchased or published in projects provide a significant addition to the collection.

Subscription to the Databases are decided upon at the session of the Science Council after having familiarized itself with the Database subscription price and statistics on the use of previous periods. Interlibrary loan services are available to library users.

Table 3.3.2

Provision of books in the study direction “Management, administration and real estate management” Architecture and Construction” on 17.06.2021.

| Industry | Number of titles (total) | Number of copies (in Latvian) | Number of copies (in English) |
|-------------------------------|-----------------------------|-------------------------------------|-------------------------------------|
| Construction | 248 | 549 | 175/42 |
| Architecture | 132 | 100 | 78/25 |
| Urban planning | 57 | 57 | 35/11 |
| Environment protection | 450 | 1175 | 477/220 |
| Material studies | 26 | 113 | 21/5 |
| Electrical engineering | 167 | 286 | 147/37 |
| Building constructions | 116 | 253 | 198/44 |
| Road construction | 6 | 5 | 1/0 |
| Land reclamation construction | 2 | 1 | 1/1 |
| Sanitary constructions | 85 | 125 | 81/41 |

Table 3.3.2.

Provision of books in the study direction “Architecture and construction” on 17.06.2021.

| Industry | RTA library stock | | |
|-----------------|--------------------------------|----------------------------------|---|
| | Number of titles (in total) | Number of copies (in Latvian) | Number of copies (foreign language / English) |
| Construction | 248 | 549 | 175/42 |
| Architecture | 132 | 100 | 78/25 |
| Urban planning | 57 | 57 | 35/11 |

| | | | |
|-------------------------------|-----|------|---------|
| Environment protection | 450 | 1175 | 477/220 |
| Material studies | 26 | 113 | 21/5 |
| Electrical engineering | 167 | 286 | 147/37 |
| Building constructions | 116 | 253 | 198/44 |
| Road construction | 6 | 5 | 1/0 |
| Land reclamation construction | 2 | 1 | 1/1 |
| Sanitary constructions | 85 | 125 | 81/41 |

In academic year 2020/2021 the library offers for its users the databases as follow: iFinances, iTiesibas, Latvijas Standartu bibliotēka, EBSCO, ScienceDirect, Scopus, Web of Science, ASTM Compass Abstracts, LNB Digital collections. Database trials (2019/2020 - 13, 2020/2021-4) are also offered. Databases can also be used remotely. In 2020, there were 31,592 sessions. In order to provide students with knowledge of the RTA library e-resources, their use and availability, the library offers classes and individual counselling. Using the resources of the library, it is possible to obtain an overview of the literature necessary for the implementation of the study process by using the electronic catalogue of the RTA library.

The list of sources necessary for the study process as well as the materials prepared by the lecturers for the study process can be obtained in the e-course (Moodle) system which provides access throughout the study process.

For the convenience of users, a section on e-resources has been created on the library's website, where various hyperlinks to access databases, RTA and other academic articles, and free access resources are compiled. In accordance with the conditions of the quality management system, the resources ensuring the study process are regularly monitored. There has been created and developed such a work environment where students can learn qualitatively, independently generate ideas, develop a creative attitude, be active and motivated. Students have access to a learning environment that has been developed and enhanced in accordance with the principles of functionality, modernity, aesthetics, human safety and ergonomics. RTA is purposefully working to ensure the widest possible availability of information about the study process and study content that is freely accessible to all students. The most important information resources available to students at RTA include:

1. Electronic Information System of Latvian Higher Education Institutions (LAIS) providing the following information available to students: course descriptions, study plans, timetables, changes in them, student performance, information on orders related to the study process (matriculation, exmatriculation, scholarships, etc.). There is also a unified anti-plagiarism control system in LAIS, where students' final papers are tested.
2. Moodle electronic study site rta.lv, where students have access to study course programmes, requirements for assessment of study results, recommended literature lists, study course study materials. The system is being improved every year with the addition of new study courses. Since 2016 RTA has prioritized the preparation of study courses in the official EU foreign language and the preparation of distance learning course materials on the e-course website.
3. Scientific journal and article collection site <http://journals.ru.lv/>, where all RTA conference

proceedings and journals are available, including the proceedings of the scientific conference "Environment. Technology. Resources" published by RTA since 1996.

4. Compilation of articles of the annual student scientific practical conference "Human. Environment. Technology".
5. Latvian Library Information System ALISE <https://biblio.rta.lv/Alise/en/home.aspx>, which provides remote access to library catalogues and diverse ways of information search, as well as ordering / booking editions for authorized users.

The website of the RTA Library provides links to [the Common Catalogue of Higher Education Institutions and Special Libraries](#), the [Common Catalogue of Rezekne Region](#), and the [National Catalogue](#), which provide the search and request of the necessary resources through interlibrary loan.

The library is open on weekdays from 9am to 5pm/ 6pm. Each year, at the suggestion of master/ part-time students or the head of the study direction, the library also provides readership on Saturdays, but these schedules are not regular- they are tailored to current demand and return to normal working hours when actual demand runs out.

In Covid-19 emergency situation, RTA library provides remote customer service and use of e-resources.

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

RTA academic staff planning issues are regulated in [Operation and development strategy of RTA 2016-2023](#), Academic Staff Development Guidelines 2016-2020, [RTA Academic Staff Development Plan 2018-2023](#). Other issues related to the planning of academic staff at RTA are regulated by the [Regulations on planning, registration, control and payment of RTA lecturers' methodological developments and scientific research](#), [Procedure of planning and accounting of workload of RTA academic staff](#), [Procedure for assessing the quality of work of RTA academic staff](#) and other documents. The most important criteria for the selection of the academic staff are scientific and professional competence.

RTA assistants, lecturers and assistant professors are elected for six years in accordance with the requirements of the Law on Higher Education Institutions. Professors and Associate Professors for the first time shall be elected for a term of six years, providing the conversion of a fixed-term contract into a contract of indefinite duration after the assessment of eligibility within the time limit set by RTA. All vacancies for academic staff are advertised in open competition, published in the newspaper "Latvijas Vestnesis", and other information sources. Applicants' eligibility for the advertised vacancy is assessed in accordance with the [Regulations on Academic Positions in RTA](#). To attract foreign teaching staff, RTA publishes advertisements on the [Euraxes](#) portal.

In the study direction, guest lecturers are involved in the implementation of professional study courses for conducting individual courses or topics.

In order to improve the qualification of the staff, the courses organized by the RTA Center for Lifelong Learning, as well as the trainings organized by the institutions and companies representing the construction industry are regularly attended. A significant increase in qualification is doctoral studies (S.Pleikšnis has completed a theoretical course at the Latvia University of Life Sciences and

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

RTA quality management policy sets out the RTA quality principles, including:

- *Staff engagement and development* - employees share a similar value system, mutual trust and a sense of responsibility. RTA invests resources in the professional development of its employees and encourages them to become more involved in the development of the institution. RTA evaluates the professional competence of employees and their compliance with the quality of their duties, supports and motivates the improvement of professional qualification, career development, provides social guarantees. RTA promotes the consolidation of employees and the development of a unified corporate culture.
- *Continuous learning and improvement* - introduction and use of new, innovative technologies, knowledge sharing, introduction of innovations and improvements. Employees are introduced and trained to work with new and innovative technologies, to use them in their work and increase the competitiveness of RTA.

RTA Academic Staff Development Guidelines define the main HR development processes in RTA activities:

- *Student-centred study process*,
- *A research process* focused on public demand for innovative products and services,
- *Communication process*, which provides for the exchange of knowledge and innovation in the inter-university level, effective international academic and research co-operation,
- *Technological process* focused on access to high quality science-based higher education, introduction of new modern technologies in the study and research process (including distance learning).

In the system of attraction and motivation of the teaching staff, RTA emphasizes the principles of strategic planning of the teaching staff, principles of determining the workload, principles of payment for the amount and quality of work, measures of motivating the growth of the teaching staff.

The academic staff of the study direction “Architecture and Construction” is selected in order to be able to implement the study programme objectives consistently and to achieve the defined study results. Both the elected lecturers and the visiting lecturers are employed in the study field. Visiting lecturers' employment policy at RTA complies with the strategic principles of RTA academic staff development - professionals with great professional work experience are invited to professional study programmes.

The qualification of the teaching staff at RTA is evaluated and raised in several ways:

1. Academic staff elected once at RTA must complete a 160-hour professional development programme in “Higher education didactics” or “Innovation in higher education”. The programme offers, among other things, courses on personal development, scientific writing, and other topical issues of higher education: student-centred approach, quality management, etc.
2. All lecturers have the opportunity to apply for the evaluation of the quality of work of the academic staff, which provides the determination of the quality factor applicable to the salary of the next year. Starting from 2018, the quality indicators of lecturers' work are aligned with the student-centred approach, assessing the contribution of the lecturer to the development of the academic, scientific and professional competence of the student. In the academic year 2019/2020 eight lecturers involved in the study direction got score between 8 and 50, which represents a corresponding percentage increase in salary for the following year.
3. Lecturers employed in the study direction improve their English language skills, acquire digital skills and leadership competencies in RTA project No. 8.2.2.0/18/A/0168 “Strengthening of RTA academic staff in the study direction “Mechanics and metalworking, heat engineering, power industry and mechanical engineering” and “Management, administration and real estate management”. This opportunity is used by 9 of the teaching staff members employed in the study programme and who also teach in study directions “Mechanics and metalworking, heat engineering, power industry and mechanical engineering” and “Management, administration and real estate management” and “Management, administration and real estate management”.

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

23 lecturers are involved in the implementation of study programme corresponding to the study direction (Table 3.6.1.).

Table 3.6.1.

Lecturers in study direction “Architecture and Construction”

| Position | % | Dr. | Mg. | Profes-sors | Associate professors | Assitant professors | Lecturers | Leading researcher | Researcher | Scientific assistant |
|--------------------|----------|-----|-----|-------------|----------------------|---------------------|-----------|--------------------|------------|----------------------|
| Elected RTA | 13 (57%) | 8 | 5 | 2 | 1 | 4 | 4 | 5 | 4 | 1 |
| Visiting lecturers | 10 (43%) | 0 | 9 | 0 | 1 | 2 | 9 | 0 | 0 | 0 |

13 (57%) were elected to RTA academic positions, 10 (43%) were visiting lecturers. 9 (39%) of the teaching staff are simultaneously elected to RTA academic and scientific positions. 8 or 35% of all teaching staff have a doctor's degree and 13 (57%) have a master's degree, one guest lecturers has higher education - specialist in the field of professional activity with a joint work experience of 52 years in the industry.

The elected lecturers hold the positions of professor (2), associate professor (2), assistant professor (3) and lecturers (4). Visiting lecturers hold the positions of visiting assistant professor (1) and visiting lecturer (8). 5 of the lecturers employed in the study programme teach only or mainly in the study programme “Civil engineering”, 17 - conduct study courses in other study programmes of the Faculty of Engineering or other faculties (General Education Courses).

See Annex 5 for basic information on the teaching staff involved in implementation of the study direction. See Annex 6 for biographies of the teaching staff.

The types of academic workload of the teaching staff, regulations on the volume of workload, the planning of work, accounting and control procedures are regulated by the workload planning and accounting procedure of the academic staff of RTA for the current academic year. RTA procedure has been elaborated in accordance with Cabinet of Ministers Regulations No. 445 “Regulation on remuneration for teachers' work” and provides for a full-time professor, associate professor 900 hours per year, an assistant professor with a doctor's degree - 950 hours per year, an assistant professor without a doctor's degree, lecturer, assistant - 1000 hours per year. The academic load consists of the work of the teaching staff in the classroom, consultations, conducting of research work, evaluation of the study outcomes.

The scientific work of the staff elected in the scientific position shall be carried out in accordance with the provisions of planning, accounting, control and payment of the scientific workload at RTA. The scientific workload consists of scientific projects / contract work, scientific publications, research work (if the research staff is studying for a master's or doctoral degree) and other forms of scientific work. If the scientist is at the same time elected to the academic position of professor, associate professor, assistant professor, lecturer or assistant, RTA shall ensure that the total annual workload does not exceed the number of hours determined by labor law.

The academic load of the teaching staff employed in the study direction, like at RTA in general, prevails over the volume of scientific work. This is due to three factors: firstly, according to the legislation of Latvia, the monthly base salary per researcher corresponds to 50 percent of the professor's lowest monthly salary rate, which weakly motivates teaching staff to become more involved in scientific research; secondly, scientific activity is linked not only to the teaching load, but also to professional activity in the field or to administrative duties at RTA, which limits the opportunity to be involved in large-scale research projects, Thirdly, the didactic strategy of the first level study programme is more focused on the development of professional competence.

In order to facilitate the mobility of teaching staff, the ERASMUS + programme has concluded cooperation agreements for the study direction with an Estonian University of Life Sciences, University of Zielona Góra, Technical University of Gabrovo Bulgaria, European Center for Education, Science and Innovation in Bulgaria See <https://www.rta.lv/partners>.

During the reporting period, lecturers from Lithuania, Portugal, Poland, Czech Republic, Turkey, Germany, Bulgaria conducted classes in the study direction “Architecture and Construction” within the framework of ERASMUS + mobility.

Study direction “Architecture and Construction” lecturers during the reporting period have been teaching in Lithuania, Poland, Sweden, Germany, France, Bulgaria, Greece, Estonia, Slovakia, Hungary, Spain within the framework of ERASMUS + mobility.

In general, the mobility of RTA teaching staff in the study direction “Architecture and Construction” is assessed as satisfactory, because the participation of lecturers and staff of vocational training courses in mobility programmes is not active enough. In general, RTA shows high student mobility rates. In U-Multirank 38 ranking in 2018 RTA was nominated as one of the top 25 universities for student mobilities. In order to plan the mobility schedule in a timely manner, RTA has established

the order in which the lecturers apply for Erasmus+ mobility. It is a collegial procedure approved by the faculty councils and the RTA Administration meeting. Preference is given to lecturers teaching in joint study programmes, working with Erasmus+ incoming students or using mobility for the first time. RTA fully guarantees staff participation in Erasmus+ mobility events.

See Annex 7 for statistics on outgoing and incoming mobility of teaching staff.

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

To provide a successful higher education environment, RTA provides both physical resources (libraries, study equipment and IT infrastructure) and human resources (teaching staff, study consultants and other advisors). In addition to the aforementioned RTA administrative units (Dean's Office, Study Department, Science Department, External Relations Department, etc.), RTA offers to its students:

- individual psychologist services on the psychological issues of organizing personal studies, psychological interrelations, etc. issues related to studies and communication in the study process. RTA offers individual and group classes. Exercise-trainings for *interaction, relationship building skills and formation of "I" image* are possible. The service is offered by a practicing psychologist. Consultation for RTA students is free of charge;
- individual career counselling services to help students better identify their interests, skills, opportunities and values, deepen their understanding of career choices, and professional suitability, to study about their personality and occupational characteristics, to obtain up-to-date information on career issues, to get support for successful career planning, to make sure they have chosen the right profession. In the field of career choice, RTA offers individual and group classes led by a certified career counsellor. Consultation for RTA students is free of charge. In addition to individual career counselling services, RTA operates the RTA [Career Portal](#), where information on professional practice, work and volunteering opportunities is regularly posted;
- the possibility to create an individual study plan for independent studies, which is supported by RTA in cases when the student is working or due to family circumstances cannot fit into the common study schedule. It is determined by RTA student regulations.

Support is provided for all groups of students as needed.

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

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

In 2013 RTA has been entered in the Register of Latvian Scientific Institutions (reg. No. 1172165) as a scientific institution. Its research objectives are defined in the Strategy for Scientific work 2019-2023, which derives from the RTA Strategy. The goal of RTA's scientific work is **to develop the knowledge-based economic development potential by providing technological excellence and transfer to the development of entrepreneurship and economy**. Its main tasks are to provide science, research and innovation in line with the research directions defined in the RTA's strategy for action and development, to develop scientific research capacity, to increase the number of people employed in science, to renew and develop human resources, technology and innovation in science, to promote international excellence and quality and maintain and improve scientific infrastructure.

1. Synergy of academic and scientific work in the study direction (9 out of 23 lecturers employed in the study direction (39%) have been elected in both pedagogical and scientific positions).
2. RTA organizes every second year the International Scientific and Practical Conference “[Technologies. Resources](#)” with scientists from over 15 countries. The proceedings of the International Scientific and Practical Conference “[Environment. Technologies. Resources](#)” available in open access databases [conferences.rta.lv](#), [journals.rta.lv](#). which are also indexed in the SCOPUS database.

Scientific activity in the study direction is ensured by the Engineering Institute. It operates in accordance with the RTA Strategy and the Research Strategy. The aim of the Institute is—to carry out research in the field of engineering sciences and technologies, to perform research contracts in engineering sciences and related interdisciplinary fields in order to ensure research and scientific activity, to provide access to science-based higher education, knowledge transfer to the national economy and cooperation with manufacturing industry for the economic growth of Latgale, Latvia, Europe. Research at the Institute is carried out both as systematic research by academic staff in the fields of their competence and as part of the education process when implementing a corresponding RTA study programme. The Institute:

- Conducts research in the field of engineering sciences and related interdisciplinary fields;
- Performs commercialization of scientific research results, integrates them into the study process and the national economy;
- Promotes the inclusion of human resources into the international scientific movement in the field of engineering sciences by strengthening the links between entrepreneurs, the public sector, and RTA;
- Involves the staff of the Institute and RTA students in scientific projects;
- Creates an environment and conditions for innovative research and activity;
- On the basis of mutual agreements, ensures cooperation with other research, industrial and academic partners in the Institute's field for performing academic research and completing industrial orders;
- Ensures the publicity of the Institute's research results in scientific periodicals, monographs, and international databases;
- Organises and participates in conferences and other scientific activities.

The Institute, being a new structural unit of RTA, has to strengthen and develop its scientific potential in the next 6 years. At present, the Institute has core network of academic and scientific staff ready to contribute to the development of science. Moreover, considering the technological equipment and development of science-based technologies at RTA, the academic staff are ready to pass their knowledge to students, creating new and innovative solutions in the field of engineering

and technologies sciences.

The main scientific direction of the institute:

- electrical engineering, electronics, information and communication technologies;
- mechanical engineering and mechanics;
- materials science;
- environmental engineering and energy;
- other engineering sciences and technologies, including food and beverage technologies.

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.

One of the main tasks in the RTA Strategy is the implementation of a science-based study process. The requirements for scientific research in the study directions of RTA are defined in accordance with the descriptions of knowledge, skills and competences in accordance with the Latvian Qualifications Framework (LQF), which envisage certain skills, knowledge and competencies in each programme group. The connection of scientific research with the study process in the study direction is also realized by the participation of teaching staff and students in scientific and scientific-practical conferences, seminars, and other public events. Within the framework of the Engineering Days, representatives from both RTA and other higher education institutions participate in the annual international scientific-practical conference "Human. Environment. Technology." (traditionally held in April).

In **construction section** it is offered to apply for readings on such topics as the latest building and finishing materials, the latest technologies in building materials production and construction, architectural trends in Latvia and in the world, energy efficiency solutions for buildings, heat utilization and reuse, energy efficient and environmentally friendly construction, construction digitization.

In 2020, following epidemiological security measures, the conference was held remotely in the Microsoft Teams environment. 46 RTA students with 35 readings participated in the conference. Due to the fact that the first level professional higher education study programme "Construction" is not strictly focused on the scientific research component, the topics related to construction appear in the student conference only in an interdisciplinary aspect.

In 2019, 24 scientific articles (14 in IT, 10 in mechatronics, product technology and environmental protection) were read at the conference and published in the [compilation of scientific articles](#), including two from Russia, one in partnership with Mittweida University in Germany. Conference materials are published in paper format and since 2019 they are available only electronically in the RTA open access database <http://journals.rta.lv/>. Unfortunately, the students of the 1st level professional higher education study programme did not participate in the student scientific-practical conference, because such a requirement is not provided in the study programme.

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.

In the field of the study programme, RTA is regularly involved in international projects, which are not so much related to fundamental as to applied research and development of new methodologies for the study process in engineering and construction. In the reporting period in the academic year 2013/2014 a lifelong learning project on brownfield assessment "BRIBAST" was implemented together with Lithuanian, Czech and Slovak universities. A joint project in the field of water protection WATERPRAXIS was implemented with the universities of Finland, Germany, Denmark, Poland, Lithuania, Sweden and Russia. In cooperation with the universities of Germany, Bolivia, Brazil, Guatemala and Chile, the "JELARE" project in the field of renewable energy was implemented within the framework of the Alpha III project. Lecturers and students of the study direction have participated in the Czech Republic ERASMUS intensive programme "Learning Sustainable Building Principles", in which RTA was included as a project partner. See information about the project No.2013-1-CZ1-ERA10-14394.

From 2017 to 2019, the teaching staff of the study direction implemented the project "Improving the professional skills of green construction through online training." (No.2 (KA2) No. 2017-1- LV01-KA202-035483), where the project partners were the European Center for Education, Science and Innovation - Bulgaria, iTStudy Hungary Számítástechnikai Oktató- és Kutatóközpont Kft - Hungary, Schnellkraft Personalmanagement GmbH - Germany and Veda Consult - Bulgaria. The aim of the project was to improve professional skills in the field of green construction through online training and to support 10.06.2016. EU Programme for New Skills (Programme for New Skills for Europe, 10 June 2016) and in particular the Greener Economy Programme. Within the project, a study material was developed, which consists of 4 interactive multimedia modules based on:

- analysis of existing programmes in the field of construction and further training in the construction sector in partner countries;
- identification of the needs of the construction sector for green building expertise in partner countries.

Using the appropriate environment, the study modules are available on the Internet <https://gcpro.rta.lv/>, as well as freely available to students, builders and all stakeholders. The project reflects the latest trends in the fast-growing construction industry and the needs of its subcontractors with relevant knowledge in the green construction industry. Thus, it helps to develop construction training modules to support the development of employee's green skills.

Erasmus+ KA2 Strategic partnership project No. 2020-1-PL01-KA226-HE-095244 **"Advanced digital design course on modern buildings developing skills for young engineers"** is currently being implemented in partnership with Bialystok University of Technology (Poland), University of Cordoba (Spain), University of Florence (Italy) , Vilnius College of Technologies and Design (Lithuania). The goal of the project is to develop a **creative and innovative training programme for civil engineers**, which includes face-to-face training, practical training modules (virtual labs) in cooperation with industry partners, as well as distance learning. Project duration - 01.06.2021 - 31.05.2023; its expected results are as follows: 3 online student training modules (virtual labs); textbook "Digital Design of Buildings"; 10-day training course for lecturers; intensive training course for students (online and remotely).

4.4. Specify the way how the higher education institution/ college promotes the

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

The involvement of RTA teaching staff in scientific research is regulated by the [“Regulations on scientific activities at RTA”](#), which stipulates that scientific work is a mandatory part of the work of the academic staff. It can be performed as an academic work in the position of a scientist (leading researcher, researcher or research assistant), working in the position of technical staff of science, working in the position of staff serving science. The regulations stipulate that, exceptionally, scientific work in the workload may not be planned if the academic staff performs full-time or part-time administrative duties at RTA or if the academic staff is elected as academic staff of professional study programmes and their main task is to ensure acquisition of practical knowledge and skills in professional study programmes. 9 out of 22 teaching staff employed in the study programme simultaneously perform the duties of a leading researcher or researcher.

The involvement of the academic staff in scientific research at RTA is encouraged in several ways:

- Since September 2018, RTA has joined the EURAXESS Latvia Network of Contact Points **to provide information and advice to foreign researchers on scientific career opportunities** at RTA, as well as to provide practical support to foreign researchers in mobility and their family members who wish to work and live in Latvia. In addition, the EURAXESS Latvia Network of Contact Points provides information and contacts for support abroad, both in Europe and worldwide, for researchers planning to participate in an outgoing mobility.
- RTA uses **project funding** to support and motivate its research staff. In 2018-2022 RTA is implementing the project “Support to international cooperation projects in research and innovation at RTA”, No. 1.1.1.5/18/I/012, which provides financial support for Horizon2020 projects.
- A research support fund has been set up at RTA to provide financial support until 2020. 400,00 EUR per year, from 2020. - 200 EUR per year for each research staff member to attend conferences / to be published in international scientific publications.
- RTA foresees that research units’ **performance funding** can be used for various research support activities, including allocation of a coefficient to the academic staff employed in the unit, increased workload for the research staff employed in the unit, introduction of new workloads of research staff, conference fees and business trip expenses
- RTA staff have **financial incentives** when publishing in RTA collections of scientific articles, including publications indexed in international databases.
- RTA periodical announces **internal scientific grants** to promote the involvement of students and partners in research.

Indirectly, the support provided by the RTA for research activities increases the competitiveness of the teaching staff, allows them to freely choose their research topic or to participate in larger research projects. RTA provides scientific mobility and the opportunity to establish national and international scientific partnerships.

See the list of publications by the teaching staff in the reporting period in Annex 8.

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

The content and volume of students' research work is determined by the content of the study programme and the work plans of the scientific units. See table 4.5.1. for the structure of students' scientific work.

Table 4.5.1

Structure and volume of students' scientific work

| Study courses | Study work | Qualification paper | Total amount of scientific work |
|---|---|-----------------------------|---------------------------------|
| Introduction to Research / Basics of Scientific Work (1 CP) | " Water Supply and Sewerage " (1 CP) " Heating, Ventilating and Gas Supply " (1 CP) " Engineering of Building Operations " (2 CP) " Steel Structures" (1 CP), "Wooden and Synthetic Material Structures " (1 CP) " Reinforced Concrete and Stone Structures " (1 CP) | Qualification paper (10 CP) | 18 CP |

The specifics of the study programme envisage the acquisition of basic professional competencies, without putting emphasis on the creation of significant innovations.

Students have access to laboratories, technical support of engineers and laboratory assistants, databases of scientific literature.

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

In order to improve the quality of the RTA study process, it follows that new scientific, technical, social, cultural or other field ideas, developments and technologies are applied in the study process and are aimed at achieving RTA's strategic goals. In order to improve the quality of the RTA study process, it is controlled that new scientific, technical, social, cultural or other direction ideas, developments and technologies are applied in the study process and are aimed at achieving RTA's strategic goals. Particular attention is paid to RTA indicators related to the study process, such as the relevance of study programmes to current business development issues, industry needs, research-based studies, student-centered study process. RTA has developed and implemented the innovations as follows:

1. RTA has established a study field expert council, which evaluates the compliance of study programme results with the needs of the branch and recommends improvements in the content of the study programmes and didactic strategy. The composition of the Expert Council of the study field "Architecture and Civil Engineering" based on the RTA Senate decision No.4 of February 26, 2019 "Regulations on the Expert Councils of the Study Fields at Rezekne Academy of Technologies" was approved by the RTA EF Council on April 23, 2021. The Expert Council of the study field "Architecture and Civil Engineering" is composed of professionals in the field of civil engineering.
2. RTA lecturers' quality of work is evaluated on the basis of student-centered approach criteria and evaluation of the lecturer's contribution to the development of the professional, scientific competence of students. The quality of work ratio determines the remuneration of the teaching staff for the following year.
3. 1 lecturer (S.Kodors) involved in the Interreg project "Improvement of employability competences in sales laboratories" introduced problem-based learning method (PBL) in their study courses
4. ICT facilities: digitalized student registration for semesters and courses, digitalized student attendance system, etc.
5. In 2015 RTA founded the Eastern Latvia High School of Technologies, which promotes the connection and succession of secondary and higher education, in STEM (Science, technology, engineering, and mathematics).
6. Students and graduates of the study direction use the services provided by Rezekne Business Incubator both in pre-incubation and incubation when starting their own business.

The digitization of the study process has contributed to the improvement of computer skills and the improvement of remote communication. It is also useful for using the digital system introduced in the field of construction in the construction process.

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

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

specify the mechanism for the attraction of the employers.

The strategic goal of RTA's internationalization is to become an internationally competitive academy of engineers, social and humanities integrated with the European Higher Education and Research Area, with motivated, creative and demanding students and an open, dynamic academic and scientific environment for sustainable community development thus promoting international recognition of study programmes and sustainable transnational cooperation. The tasks of implementing the strategic objective include:

- ensure dual and / or dual diplomas at RTA,
- ensure the export capacity of the study programmes offered by RTA,
- attract high-level professors from abroad for the provision of the study process, including supervising master's and doctoral theses,
- developing professional practices abroad for both full-time and part-time students,
- promote the development and implementation of integrated study programmes and programme modules in foreign languages for foreign students,
- develop the content of study programmes required in the international labor market in cooperation with professional practice, employers, public administrations, professional organizations and associations; http://iselv.eu/index.php?sub_show=99&show=45 and the Baltic Infrastructure of Research, Technology and Innovation (BIRTI) <http://birti.eu/en/members>,
- develop cooperation with foreign higher education institutions (including CIS countries) for the improvement of study programmes,
- participate creatively in European education and science programmes, supporting student, faculty and staff exchanges.

The goal set by RTA has been partially achieved so far, as international recognition and scientific activity need to be improved.

The international cooperation and internationalization policy of the RTA is based on the [Erasmus Charter 2021-2027](#), which is a written document that is issued by the European Commission, enabling the RTA to participate in Erasmus activities. The Charter sets out the guiding principles for the organization and implementation of Erasmus activities. The main principles of the internationalization of RTA are set out in the Erasmus Policy Declaration. RTA is a member of the Latvian Higher Education Export Association and is developing cooperation with partners in Uzbekistan, China, Kazakhstan and India to attract students to the international higher education market.

Cooperation in the study direction is developed in two essential aspects:

I. In cooperation with employers, regional governments, industry companies:

1. provision of student professional practice,
2. participation in the organization of events (discussions). For example, the cycle of conversations and discussions "If you want, then you can", "Cooperation dialogue. The role of the renewable energy sector in the future of Latvia's regions ", regular discussions with industry representatives on the development of the field of study;
3. participation in the organization of the Career Day event;
4. participation in National Final Examination Commissions;
5. participation in the development of strategic documents (RTA development strategy);
6. visiting lectures for students and staff (SIA "Ceļi un tilti", Rezekne City Construction Board,

"Senukai");

7. work-based studies (RTA staff - professionals);
8. study tours (new buildings - Rezekne Olympic Center, SPA, concert hall, industrial park, buildings to be renovated - RTA service hotel, insulated buildings);
9. in-service training of academic staff (S.Pleikšnis did an internship in the field of construction of SIA "Kind Service", Ē.Teirumnieka SIA "LEAX Rēzekne" in the field of environmental protection).

II. Students' general education activities: study tours.

In order to strengthen cooperation with employers, RTA offers employers to participate in guest lectures and seminars organized within RTA network. Employers participating in the Study Expert Council can attend free of charge professional or informal education programmes offered by the Centre for lifelong learning and have the opportunity to work on joint projects. Every year study trips are organized for students to get acquainted with the specifics of the building manager profession.

For a list of cooperation agreements in the study direction see Annex 9.

Strategic Partners in the Architecture and Civil Engineering: Latvian Union of Civil Engineers, Latvia University of Agriculture, Riga Technical University, Riga Construction College, Jade Hochschule (Jade University of Applied Sciences) Germany, Hochschule Mittweida (Mittweida University of Applied Sciences) Germany, Rezekne Special Economic Zone. Criteria for selecting partners - implementation of similar programs in educational institutions, construction professional associations, business associations in order to be able to implement the activities listed above.

Cooperation with the academic sector in Latvia and abroad:

- agreements on the right of students to continue their studies in the event of termination of the programme at RTA, concluded with Riga Construction College.

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

RTA has concluded more than 100 contracts under the ERASMUS + project, of which 34 refer to the study field "Architecture and Construction". In order to promote the activity of its partners, the Faculty regularly organizes international weeks, which ensure the implementation of the policy of internationalization of study and research environment.

During the reporting period, lecturers from Lithuania, Portugal, Poland, Czech Republic, Turkey, Germany, Bulgaria conducted classes in the study direction "Architecture and Construction" within the framework of ERASMUS + mobility.

Study direction "Architecture and Construction" lecturers during the reporting period have been teaching in Lithuania, Poland, Sweden, Germany, France, Bulgaria, Greece, Estonia, Slovakia, Hungary, Spain within the framework of ERASMUS + mobility.

Foreign lecturers participate in the international conference "Environment. Technologies, Resources."

In order to support the attraction of foreign scientists RTA has become one of the Euraxes contact points in Latvia with the mission of providing information and advice to foreign researchers on scientific career opportunities in Latvia since 2018, as well as providing practical support to foreign researchers in mobility and their family members who wish to work and live in Latvia. In addition, the EURAXESS Latvia Contact Point Network provides information and contacts for support abroad, both in Europe and worldwide, for researchers planning to go on outgoing mobility. EURAXESS is one of the European Research Area initiatives to promote international and intersectoral mobility of researchers in Europe and third countries and to support an open labor market for researchers.

In recent years, the number of foreign students and teachers has decreased. This can be explained by the fact that the study direction includes only the first level professional higher education program implemented in Latvian.

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

The procedure of organization of professional internship at RTA is regulated by the [Regulations on professional internship](#) approved by the Senate, which define the types, aims and tasks of professional internship, organizational issues, procedure of defence at RTA, and methodological instructions for trainees professional internship approved in the study programs of the study field (see Annex 12).

The professional internship in the professional programmes is carried out in accordance with the professional internship agreement on the provision of the professional internship sites or in accordance with the decision of the RTA Study Council on the provision of professional internship places at the institution itself. RTA has established long-term and successful cooperation with employers and employers' organizations in Rezekne city and Latgale region (see Annex13 for information concerning agreements on providing student professional internship). The aim of professional internship is to strengthen the students' theoretical knowledge, improve professional skills and abilities in accordance with the requirements of the profession of a company, as well as to provide an opportunity to develop practical skills and ability in the field of construction management and construction works.

Students of the study direction "Architecture and Construction" programme "Construction" are offered professional practice opportunities in accordance with the concluded cooperation agreements with state / municipal institutions / companies (see Annex 13). The offered professional practice places are related to the study content and help to complete the professional practice programme.

Before commencement of the professional practice, a tripartite professional practice agreement is concluded between RTA, the employer and the student, specifying the objectives, tasks, deadlines of the professional internship, as well as the supervisor of the professional internship, and other issues.

Student placement is provided in several ways in the study direction: the student chooses the placement according to the tasks of the professional internship, the place of the professional internship coincides with the workplace, the professional internship is done in one of the

cooperation companies. Students also choose a placement as a potential future job. In the study direction, cooperation has been established with local companies, state and local government institutions, branches of foreign companies, banks, etc. By coordinating professional practice assignments with study programme directors, company executives offer students both professional practices and permanent working places. In case the student does not find the placement on his/her own, the placement is offered at one of the companies with which RTA has concluded a contract for the provision of the student placement.

After the professional intrenship, the student submits an professional intrenship report and a diary showing the progress of the intrenship, the performance of the tasks, their reflective evaluation by the student and the supervisor in the company / institution. In the end, in accordance with the requirements of the cooperation agreement, professional intrenship defence is organized in a joint professional intrenship commission, where each student gives an overview of what has been done and is evaluated.

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

Not applicable

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

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

The previous external evaluation of the study direction took place in 2011/2012. The commission of experts (Prof. J. Hanaeus, prof. J. Spalviņš, prof. Eugenia Kestutis Staniunas) evaluated the **quality, resources, sustainability, and cooperation** of the study direction. In their report, the commission emphasised such strengths of the study programmes mplemented by RTA as orientation to the needs of the region, openness to new ideas, respectable number of students, library provision. Among the **weaknesses**, the experts pointed out the unfavorable impact of insufficient English language skills on the opportunities for international cooperation, insufficient

inter-institutional cooperation at the national level, and insufficient opportunities for Rezekne as a small city. Experts mentioned the possible decrease in the number of students and the decrease in human resources in the study program as possible **threats**. In turn, the experts indicated **opportunities** to improve the English language skills in students that would promote international cooperation and focus on the regional implementation of topical research-based studies, especially forest technologies and renewable resources (biomass). Experts also recommended getting involved in EU projects and attracting new attractive academic staff.

The study direction has performed meaningful work on the fulfilment and implementation of these recommendations. For an overview of the measures taken to implement the recommendations, see Annex 14.

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

Not applicable

Annexes

| I. Information on the Higher Education Institution/ College | | |
|--|---------------|-------------------|
| List of the governing regulatory enactments and regulations of the higher education institution/ college | Annex 1.docx | 1.pielikums.docx |
| Information on the implementation of the study direction in the branches of the higher education institution/ college (if applicable) | | |
| Management structure of the higher education institution/ college | Annex 2.docx | 2.pielikums.docx |
| II. Description of the Study Direction - 1. Management of the Study Direction | | |
| Plan for the development of the study direction (if applicable) | Annex 3.docx | 3.pielikums.odt |
| Management structure of the study direction | Annex 4.docx | 4.pielikums.docx |
| II. Description of the Study Direction - 3. Resources and Provision of the Study Direction | | |
| Basic information on the teaching staff involved in the implementation of the study direction | Annex 5.xlsx | 5.pielikums.xlsx |
| Biographies of the teaching staff members (in Europass Curriculum Vitae format) | Annex6.7z | 6.pielikums.7z |
| Summary of the statistical data on the incoming and outgoing mobility of the teaching staff over the reporting period | Annex 7.docx | 7.pielikums.docx |
| II. Description of the Study Direction - 4. Scientific Research and Artistic Creation | | |
| List of the publications, patents, and artistic creations of the teaching staff over the reporting period | Annex 8.docx | 8.pielikums.docx |
| II. Description of the Study Direction - 5. Cooperation and Internationalisation | | |
| List of cooperation agreements | Annex 9.xlsx | 9.pielikums.xlsx |
| Statistical data on the teaching staff and the students from abroad | Annex10.docx | 10.pielikums.docx |
| Statistical data on the mobility of students (by specifying the study programmes) | Annex 11.docx | 11.pielikums.docx |
| Description of the organisation of the traineeship of the students | Annex 12.doc | 12.pielikums.doc |
| Information on the agreements and other documents confirming the traineeship of the students in companies | Annex 13.docx | 13.pielikums.docx |
| II. Description of the Study Direction - 6. Implementation of the Recommendations Received During the Previous Assessment Procedures | | |
| Overview of the implementation of the provided recommendations | Annex_14.odt | 14.pielikums.docx |
| Description of the Study Programme - Other mandatory attachments | | |
| Confirmation signed by the rector, director or the head of the study programme or the study direction of the higher education institution/ college which states that the official language proficiency of the teaching staff involved in the implementation of the relevant study programmes of the study direction complies with the regulations on the level of the official language knowledge and the procedures for testing official language proficiency for performing professional duties and office duties. | Annex 15.docx | 15.pielikums.pdf |
| III. Description of the Study Programme - 1. Indicators Describing the Study Programme | | |
| Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table) | | |
| Statistics on the students over the reporting period | | |
| III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof | | |
| Compliance of the study programme with the State Education Standard | | |
| Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable) | | |
| Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable) | | |
| Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme | | |
| Curriculum of the study programme (for each type and form of the implementation of the study programme) | | |
| Descriptions of the study courses/ modules | | |
| Description of the Study Direction - Other mandatory attachments | | |
| Sample of the diploma to be issued for the acquisition of the study programme. | | |
| Description of the Study Programme - Other mandatory attachments | | |

| | | |
|--|---|--|
| Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued | | |
| Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme | | |
| Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language. | | |
| If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree. | | |
| If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education | | |
| Sample (or samples) of the study agreement | | |
| If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education. | | |
| Description of the Study Direction - Other mandatory attachments | | |
| Electronically signed application form for assessment of a study direction | 4.9.9_20211025_Iesniegums novērtēšanai ENG.edoc | 4.9.9_20211025_Iesniegums novērtēšanai LV.edoc |

Other annexes

| Name of document | Document |
|------------------|----------|
|------------------|----------|

Civil Engineering (41582)

| | |
|---|--|
| Study field | <i>Architecture and Construction</i> |
| ProcedureStudyProgram.Name | <i>Civil Engineering</i> |
| Education classification code | <i>41582</i> |
| Type of the study programme | <i>First level professional higher education study programme</i> |
| Name of the study programme director | <i>Aleksejs</i> |
| Surname of the study programme director | <i>Avots</i> |
| E-mail of the study programme director | <i>Aleksejs.Avots@rta.lv</i> |
| Title of the study programme director | <i>viesdocents</i> |
| Phone of the study programme director | <i>+371 29295283</i> |
| Goal of the study programme | <i>The aim of the programme is to prepare students for work in the field of construction in the public and private sectors, following a unity of theory and practice, thus ensuring the competitiveness of graduates in the Latvian and international labour market.</i> |
| Tasks of the study programme | <p><i>1. In accordance with Building Construction Manager profession standard to provide theoretical and practical knowledge to building construction managers, who can perform complex work of a contractor, as well as to organize and manage construction work in accordance with legislation.</i></p> <p><i>2. Promote the acquisition of knowledge and skills (including independent learning skills) that provide acquisition of the fourth level professional qualification and contribute to competitiveness in a changing socio-economic context.</i></p> <p><i>3. To promote the development of general skills and competences of students, including presentation, communication skills, ability to work in a team, social dialogue, business etc.</i></p> <p><i>4. Create motivation for further education and to provide an opportunity to continue studies at later stages in bachelor's study programs in construction.</i></p> |

| | |
|--|--|
| Results of the study programme | <p>1. Able to independently get acquainted with the construction project documentation and assess its compliance with the set goal of the construction project, as well as to evaluate the construction products provided in the construction project and provide proposals for their replacement.</p> <p>2. Able to develop a construction project for the construction site, its coordination in accordance with the requirements of regulatory enactments.</p> <p>3. Able to independently plan the organization of the construction project implementation, organize the construction site preparation works, construction axes, engineering networks and provide the construction project with the necessary resources and maintain its functionality.</p> <p>4. Able to ensure operative management of building construction works in accordance with the construction project, to document the course of construction works in accordance with the requirements of regulatory documents and accurately take regular measurements during the implementation of construction works.</p> <p>5. Able to implement the construction works in accordance with construction project, prepare documentation for the completion of the construction, analyze the resources consumed in the construction works, as well as evaluate the results of monitoring the changes in the technical condition of adjacent buildings.</p> <p>6. Able to use construction information, construction modeling and construction quality control systems, ensure the initial control of delivered construction products and materials and technological control of operations or processes.</p> <p>7. Able to participate in the organization of the final control of the completed (transferred) type of work or construction cycle (construction elements) and in the fulfillment of obligations assumed by the construction merchant during the construction work guarantee.</p> <p>8. Able to follow safe work environment measures, basic principles of professional activity and communication on the construction site, to apply the labor law norms corresponding to a certain situation, use digital tools and business principles.</p> <p>9. Able to evaluate the importance of models and regularities observed in the data (or proposed) in the construction of buildings, to generalize the obtained conclusions and raise new problems in the field of building construction in a generalized way. Able to systematize information and to find creative solutions for the development of technological processes by handling scientific data.</p> |
| Final examination upon the completion of the study programme | Defense of qualification work. |

Study programme forms

Full time studies - 3 years - latvian

| | |
|------------------------|-------------------|
| Study type and form | Full time studies |
| Duration in full years | 3 |

| | |
|---|--------------------------------|
| Duration in month | 0 |
| Language | latvian |
| Amount (CP) | 120 |
| Admission requirements (in English) | Secondary education. |
| Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english) | - |
| Qualification to be obtained (in english) | Building Construction Manager. |

Places of implementation

| Place name | City | Address |
|---------------------------------|---------|--|
| Rēzekne Academy of Technologies | RĒZEKNE | ATBRĪVOŠANAS ALEJA 115, RĒZEKNE, LV-4601 |

Part time extramural studies - 3 years, 6 months - latvian

| | |
|---|--------------------------------|
| Study type and form | Part time extramural studies |
| Duration in full years | 3 |
| Duration in month | 6 |
| Language | latvian |
| Amount (CP) | 120 |
| Admission requirements (in English) | Secondary education. |
| Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english) | - |
| Qualification to be obtained (in english) | Building Construction Manager. |

Places of implementation

| Place name | City | Address |
|---------------------------------|---------|--|
| Rēzekne Academy of Technologies | RĒZEKNE | ATBRĪVOŠANAS ALEJA 115, RĒZEKNE, LV-4601 |

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

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

| | |
|---|--|
| Title of the study programme in Latvian | Būvniecība |
| Title of the study programme in English | Civil Engineering |
| Code of the study programme according to the Latvian Education Classification | 41582 |
| Type and level of study programme | The first level professional higher education study programme |
| Qualification level to be achieved (NQF / EQF) | 4/5 |
| Profession code in the classification of professions | 132305 |
| Volume of study programme (CP, also recommending ECTS) | 120 (180) |
| Form, type, lengths (if less than a year, in months) and language of implementation | |
| Full time studies Part time studies | Full-time, 3 years, Latvian Part-time, 3 years and 6 months, Latvian |
| Place of implementation | Rēzekne |
| Director of the study programme | Guest assistant professor Aleksejs Avots |
| Admission requirements | Secondary education |
| Degree, professional qualification or degree and professional qualification to be conferred | Professional qualification - Building Construction Manager |
| Aim of the study programme | to prepare students for work in the field of construction in the public and private sectors, following a unity of theory and practice, thus ensuring the competitiveness of graduates in the Latvian and international labour market. |

Tasks of the study programme

1. In accordance with Building Construction Manager profession standard to provide theoretical and practical knowledge to building construction managers, who can perform complex work of a contractor, as well as to organize and manage construction work in accordance with legislation.
2. Promote the acquisition of knowledge and skills (including independent learning skills) that provide acquisition of the fourth level professional qualification and contribute to competitiveness in a changing socio-economic context.
3. To promote the development of general skills and competences of students, including presentation, communication skills, ability to work in a team, social dialogue, business etc.
4. Create motivation for further education and to provide an opportunity to continue studies at later stages in bachelor's study programs in construction.

1. Able to independently get acquainted with the construction project documentation and assess its compliance with the set goal of the construction project, as well as to evaluate the construction products provided in the construction project and if necessary provide proposals for their replacement.
2. Able to develop a work project for the construction site, its coordination in accordance with the requirements of regulatory enactments.
3. Able to independently plan the organization of the construction project implementation, organize the construction site preparation works, construction axes, engineering networks and provide the construction project with the necessary resources and maintain its functionality.
4. Able to ensure operative management of building construction works in accordance with the construction project, to document the course of construction works in accordance with the requirements of regulatory documents and accurately take regular measurements during the implementation of construction works.
5. Able to implement the construction works and operational management in accordance with construction project, prepare documentation for the completion of the construction, analyze the resources consumed in the construction works, as well as evaluate the results of monitoring the changes in the technical condition of adjacent buildings.
6. Able to use construction information, construction modeling and construction quality control systems, ensure the initial control of delivered construction products and materials and technological control of operations or processes.
7. Able to participate in the organization of the final control of the completed (transferred) type of work or construction cycle (construction elements) and in the fulfillment of obligations assumed by the construction merchant during the construction work guarantee.
8. Able to follow safe work environment measures, basic principles of professional activity and communication on the construction site, to apply the labor law norms corresponding to a certain situation, use digital tools and business principles.
9. Able to evaluate the importance of models and regularities observed in the data (or proposed) in the construction of buildings, to generalize the obtained conclusions and raise new problems in the field of building construction in a generalized way. Able to systematize information and to find creative solutions for the development of technological processes by handling scientific data.

The final examination at the end of the study programme

Defense of qualification work

As the standard of the profession has changed, the professional qualification to be awarded has been changed accordingly - the building construction manager. The aim, tasks and results of the program in accordance with the new professional standard have been specified.

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

Table 3.1.2.1.

The Total Number of Students in the first level professional higher education study programme "Civil engineering"

| | 1 st year | | 2 nd year | | 3 rd year | | 4 th year | |
|-------------|----------------------|-------------|----------------------|-------|----------------------|-------|----------------------|-------|
| | FT*(b***) | PT**(m****) | FT(b) | PT(m) | FT(b) | PT(m) | FT(m) | PT(m) |
| 01.04.2017. | 23 | 7 | 25 | 20 | 36 | 2 | 28 | 10 |
| 01.04.2018. | 22 | 10 | 23 | 8 | 24 | 1 | 25 | 13 |
| 01.04.2019. | 31 | 8 | 26 | 9 | 27 | 0 | 10 | 11 |
| 01.04.2020. | 26 | 12 | 27 | 8 | 28 | 0 | 7 | 7 |
| 15.04.2021. | 32 | 12 | 23 | 12 | 33 | 0 | 7 | 4 |

*FT – full time studies

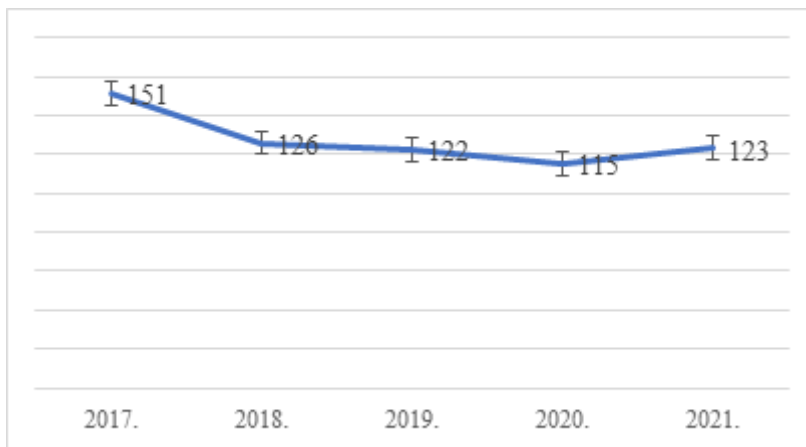
**PT – part time studies

***b – state-funded budget places

****m – own funding

Table 3.1.2.2

Dynamics of the total number of students 2017-2021



The number of students in the study programme in full-time studies in the reporting period is stable. Approximately 19% decrease in the total number of students can be explained by the drop in the number of students in part-time self-funded studies, which in 2021 compared to 2017 decreased by 46%. The decrease in the number of students in self-funded studies is also observed in other RTA study programmes, which can be explained by the insufficient solvency of applicants in the region.

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

The title, aim, tasks, qualification to be obtained and learning outcomes of the study programme “Civil engineering” are defined in accordance with:

- the National Qualifications Framework (LQF) complying with the European Qualifications Framework (EQF). The study programme corresponds to LQF level 5, therefore the learning outcomes are defined in accordance with the descriptions of knowledge, skills and competencies corresponding to level 5, which are available in Regulation of the Cabinet of Ministers (Cabinet Regulation) No. 332 *Regulations on the Classification of Education in Latvia* of 5/13/2017.
- The programme standard specified in the Cabinet Regulation No. 141 “Regulations on the state standard of first level professional higher education” of 3/20/2001.,
- 4th professional qualification level “Building Construction Manager” profession standard, agreed at the Tripartite Cooperation Sub-Council for Vocational Education and Employment on August 11, 2021, protocol no. 5,
- Description of the separate group of professions “1323 Construction managers” in the Classification of professions. 5/23/2017 Regulations of the Cabinet of Ministers No. 264 “Regulations on the Classification of Professions, Basic Tasks Relevant to the Profession and Basic Qualification Requirements”.

The title of the first level professional higher education study programme “Civil engineering” has been chosen in accordance with the procedure of classification of education in Latvia. The **aim** of the programme is to prepare students for work in the field of **construction** in the public and private sectors, following a unity of theory and practice, thus ensuring the competitiveness of graduates in the Latvian and international labour market. The tasks set for the implementation of

the aim envisage ensuring the compliance of the educational program with the regulation of studies and science in the Republic of Latvia.

In the context of the education programme classification, the programme “Civil engineering” corresponds to the *Construction and Civil Engineering programme* group and falls within the thematic area of the *Architecture and Costruction programme*, which in turn belongs to the *Engineering, Manufacturing and Construction Education* thematic group.

The study programme provides the acquisition of the 4th professional qualification level professional higher education in construction, which meets the requirements of the labor market (Building Construction Manager profession standard) and the first level professional higher education requirements (education standard). The **learning outcomes of the study programme**, which plan not only provision of specific knowledge, but also development of certain skills and competencies in the field of construction. In order to effectively achieve the results of the study programme, RTA applies a study process based on a student-centred approach, providing for the development of students' independence, entrepreneurship and initiative. An essential precondition for successful achievement of the learning outcomes is the contingent of enrolled students. Admission to the study program is based on the Law on Higher Education Institutions of the Republic of Latvia, the Cabinet Regulations Regarding the Requirements, Criteria and Procedures for Admission to Study Programmes, and RTA Admission Regulations. Applicants are admitted to the study program on the basis of secondary education, marks of three centralized examinations: mathematics, Latvian and foreign language (one foreign language, including English, German or Russian, at the choice of the applicant).

In order to select most motivated students, RTA has defined the possibilities of receiving additional points to those applicants who have gained 1st, 2nd or 3rd place in State Olympiads in mathematics, physics, economics, English, French or Russian, graduates of the Eastern Latvia Technology High School, graduates of secondary professional education related to the field of construction and architecture - 1.5 points; 1 point for a *Junior Achievement Latvia* certificate holders. The average coefficient of admission to these programmes in the last six years is 2.5 applicants per budget place, which is one of the highest admission rates at the RTA Faculty of Engineering, which shows that students have purposefully chosen construction studies and is one of the most requested study programmes at RTA. Assessing the previous education competence of matriculated students, it should be noted that the average certificate / diploma mark in 2019 was 6 (almost good), but in 2020 it was **7 (good)**. The statistical data of the last two years show the tendency of the whole period - the majority of applicants have mastered the previous educational programmes well and are sufficiently prepared for studies in the first level professional higher education programme.

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

2.1. Assessment of the relevance of the content of the study course/ module and the compliance with the needs of the relevant industry and labour market and with the trends in science. Provide information on how and whether the content of the study course/ module is updated in line with the development trends of the relevant industry, labour

market, and science. In case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation.

While developing the study programme, the needs of construction sector and labour market. In order to ensure the topicality of the study programme in the labour market, RTA has established a procedure for regular evaluation and adjustment of the study content, involving representatives of the industry and employers. Employers are involved in the implementation and evaluation of the program in several ways:

- the implementation of the programme involves **teaching staff with professional experience** in the specialties corresponding to the profile of the programme (chief engineer of construction projects A.Avots, design engineer T.Germova, geologist A.Karpovičs, construction manager, environmental engineer A.Mortuzāns, senior specialist of labor protection E.Šļiņa); involvement in the study process takes place in accordance with the study plan, in the study courses students receive the latest experience and information relevant to the labour market;
- employers participate in **state examination commissions**. The RTA Regulations on State and Final Examinations stipulate that the chairperson of the state examination commission and at least half of the commission members are representatives of professional organizations or employers in the respective field. The chairperson or vice-chairperson of the commission must have a doctoral degree in the respective field, the members of the commission must have at least a master's degree or specialists with higher education who have been working in a leading position in the respective field for at least 3 years. Members of the Latvian Union of Civil Engineers, member of the board of SIA "Eko Energija Rīga", civil engineer, chairperson of the board of SIA "Rēzeknes nams", director of the control department of the Rural Support Service and 2 representatives of RTA academic staff participate in the state examination commission of the study programme "Construction". The activity of the commission takes place at least once a study year, after the meeting of the commission the study results are discussed and the members of the commission recommend proposals for the improvement of the curricula and study research topics. The most current proposals concern the regular updating of construction standards in study courses.
- there is a **Council of Experts of Study direction**, which includes professionals in the field. The Council of Experts of Academic Direction meets at least twice an academic year, discusses the learning outcomes of the study programme, recommends a makes proposals for improving the content and implementation of studies.

In order to ensure the **compliance of the content of the programme with the development tendencies of the industry**, several measures are taken in the study process:

- descriptions of study courses are regularly updated, if necessary, the latest literature required for the provision of study process is purchased;
- lecturers carry out scientific research in fields or interdisciplinary fields related to the content of study courses, students carry out the development of study research papers (18 CP of the study programme curriculum is devoted to direct development of research competences), in RTA there are strict requirements on the use of the latest scientific literature in the development of study research papers – the vice-rector's order stipulates that when planning the study research work methodology, literature and sources to be used, the RTA Rector's order No. 4-5/100 of 2 December 2012 has to be taken into account, which determines the

minimum amount of used literature. Study work / project, course work / project must have at least 30 literature units, including 5-8 units of scientific literature; for qualification work – 40 literature units, including 10-15 scientific literature units, for bachelor's thesis, diploma thesis/ diploma project – 50 literature units, including 15-18 scientific literature units; for master's thesis – 70 literature units, including 35 scientific literature units. The same order emphasizes that “50% of the volume of the listed scientific articles must be in a foreign language which is a language of the European Union (not applicable to study programmes implemented in English or German).”

- The teaching staff of the study direction is involved in the implementation of international cooperation projects in the field of construction (see Chapter 4.3), which ensures the introduction of the latest achievements in the study process.

The development of research expertise consists of study courses such as the Introduction to research, Geodesy practice, Water supply and Sewerage, Heating, ventilation and gas supply, all course works.

It is planned to develop more research competencies in the 2nd level professional higher education study program in the direction of Construction and Architecture in the next six years.

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

The study programme's aims and results are formulated, and consequently the aims and learning outcomes of each study course also follow, i.e. what the student is able acquiring the study programme as a whole and what the student is able acquiring a separate study course. The learning outcomes are related to the Construction basic principles, basic tasks, skills, knowledge and competencies necessary for the fulfillment of basic duties of managers, which are based on the changing environment of the modern labour market. For mapping of study courses to achieve the outcomes of the study programme, see Annex 4.

Evaluation criteria shall be developed so that they match the learning outcomes, are justified, verifiable and accessible to a student at the beginning of the study program and a separate study course. Study course programs are available in the www.lais.lv system.

The structure of the study programme at RTA is regulated by the “Regulations on the development of study course / module descriptions at RTA”, approved by the Study Council which envisage to include in the study programme the information such as requirements for commencement of the study course, the knowledge, skills and attitudes to be acquired at the end of the course (study results) work, requirements for assessment of study results for obtaining credit points, literature, etc. organizational issues of the study course content.

In order to ensure the connection of the content of the study courses, the results to be achieved with the aims and results of the study programme:

- the lecturer plans the attainable results of the study course in accordance with the concrete results of the study programme reflected in the form of the study course programme;
- the teaching staff coordinates the study results defined in the study course with the director of the study programme/ module, who is responsible for determining the study programme/ module study outcomes;
- all study course programmes are approved at the Study direction council, after assessing whether the student's independent work is included and reasonably considered in the study course programme, whether recent literature of the field (including English) is included in the work, whether the planned examination forms can be used to fully assess competencies acquired by students and other essential questions. If the Study direction council has any objections regarding the conformity of the study course content with the didactic strategy of the study programme, the Study direction council asks the teaching staff to eliminate the shortcomings and improve the study programme;
- in order to control the planning of study course study outcomes, the study programme director shall conduct study course mapping, which allows to verify and, if necessary, correct the study course content in order to ensure the achievement of study programme goals and results.

See Annex 6 for descriptions of study courses of the study programme.

Evaluating the correlation between the learning outcomes of the study programme and the study courses, we believe that the learning outcomes defined in the study courses ensure the fulfillment of the learning outcomes of the study programme, allow to achieve the aim of the study programme and complete the tasks. In turn, the conditions for the assessment of learning outcomes defined in the study courses and the study programme allow to determine the level of completion of learning outcomes at the level of knowledge, skills and competencies.

As mentioned above, the teaching staff involved in the study programme shall follow the strategic planning documents at State level drawn up by industry experts in cooperation with the responsible ministries, and all trends, as well as innovation, shall be included in the study courses. The Council for the direction of study shall be the one evaluating the course in which the sectoral topics are to be introduced. In view of the involvement of all teachers in the course of the study programme, everyone has been informed about the content of the study courses of colleagues and the requirements for their learning. For example, when assessing the latest trends in the sector, new study courses were created - Green Construction and Introduction to construction information modelling; BIS topics in integrated study courses Engineering of building operations, Construction design, etc.

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

The basic principles for the assessment of learning outcomes in the study programme are based on Standards and Guidelines (ENQA) for Quality Assurance in the European Higher Education Area (approved on 15-16.2015), which outline the main principles of the student-centered process. In

accordance with ENQA standards, formal requirements and rules for evaluation have been developed at RTA. The most important of these are: [Rules of examinations and testing session at RTA](#), [Methodological recommendations for organizing students' independent work at RTA](#), [Regulations on course exams and tests](#), [Regulations on professional practice at RTA](#), [Regulations on state and final examinations at RTA](#), [Study quality system based on study results at RTA](#), [plagiarism control and prevention rules at RTA](#). The principles of evaluation in the study programme are based on the requirements of the Cabinet of Ministers Regulation No.141 "Regulations on the national standard of the first level professional higher education" and the Law on Higher education institutions.

The assessment criteria are designed to be relevant to the learning outcomes, to be valid, verifiable and accessible to the student from the commencement of the study programme and the individual course. The evaluation criteria in study courses, the form and procedures of testing shall be determined by a lecturer, outlining it in the study course programme, so that they are available to students. The study course programme is available to students in the www.lais.lv system, consequently, the evaluation requirements are clear and available to students already upon commencement of the course. Problem-solving skills are developed in all the study courses during the practical classes, seminars, group works, etc.

At RTA, the learning outcomes are evaluated according to two indicators: qualitative (evaluation in the [10 point gradig system](#)) and quantitative – study course points (CP/ECTS) according to the volume of the study course. The evaluation of student knowledge is relatively divided into two stages: in the formative (forming) and summative (summarizing). The formative evaluation shall provide the lecturer and students with feedback on the necessary further organisation of the study process, it shall encourage the student to supplement his/her knowledge, and enable the lecturer to judge the usefulness of the methods chosen. The summative evaluation (test, differentiated test, examination) shall confirm the achievement of the set requirements – criteria, reveal how the study course has been acquired in general and confirm the achievement of the study course aim. Using different forms of summative evaluation (tests, reports and projects, etc.), the lecturer shall check how a student has acquired the content of a particular topic or the whole study course. The test works are organised both orally and in writing, including theoretical questions, tasks and analysis of situations.

["Regulation on study course examinations and tests at RTA"](#) stipulates that "a lecturer shall organize study test works in such a way that the formative evaluation during the semester shall constitute at least 40% of the summative evaluation at the end of the study course acquisition". The rules on the procedure for development of study course programs approved by the Study Council of RTA stipulate that the criteria and methods for evaluating the learning outcomes shall be published at the beginning of the implementation of study courses and be consistent and fairly applied to all students and carried out in accordance with a procedure as published in advance. RTA has created a consultation system of academic staff that is also included in the workload of academic staff to provide students with feedback on assessment of their learning outcomes. Evaluation is increasingly carried out by more than one lecturer (these are commissions at state examinations, defence of study papers, and study courses, which are taught by more than one lecturer). Academic staff regularly (approximately once a year) organize courses on the principles of elaboration and evaluation of learning outcomes and experience abroad. Academic staff are invited to take into account mitigating circumstances in their evaluation in accordance with ENQA standards. However, RTA provides for sanctions for violations of academic ethics as stipulated in the Plagiarism Control and Prevention Rules.

The basic principles of evaluation are as follows: **the principle of summing up positive achievements** - the acquired education is evaluated by summing up positive achievements; **the**

principle of compulsory assessment - it is necessary to obtain a positive assessment regarding the acquisition of the compulsory content included in the main parts of the programmes; **the principle of openness and clarity of requirements** - in accordance with the set goals and tasks of the programmes, as well as the goals and tasks of the study courses, a set of basic requirements for the evaluation of the acquired education has been determined; **the principle of diversity of the types of tests used in the assessment** - different types of tests are used in the assessment of the acquisition of the programme; **the principle of conformity of assessment** - in the test it is possible to prove analytical and creative abilities, knowledge, skills and abilities in tasks and situations corresponding to all levels of acquisition. The amount of content to be included in the examinations corresponds to the content specified in the course programmes and the skills and knowledge requirements specified in the profession standard.

In the form of full-time studies of the study programme, contact hours constitute 40% of the study program, in part-time studies – 15% of the study programme.

The overall evaluation of the course consists of sum of separate works to be completed during study course acquisition and obtained evaluations (test works, reports, presentations, study projects, etc.). In order to ensure the students the ability to independently direct improvement of their competences and specialization, to carry out work, research or further studies independently, students shall perform individual work, which constitutes 85% (in part-time studies) and 60% (in full-time studies) of the volume of the program. Planning of individual work in each study course is carried out at the beginning of the semester, coordinating it with the students and including the requirements in the study course description available at the RTA e-course website.

For the achievement of the joint learning outcomes of the study program, students shall be introduced with the aims, objectives of the study course and the learning outcomes to be achieved, as well as the evaluation rules at the beginning of each study course. The criteria for the evaluation of knowledge in the study courses, the form and procedures of testing shall be determined by the lecturer. Students shall be informed in good time about the criteria for evaluating examinations, tests and other test works. The evaluation system is improved taking into account also the results of student surveys.

The part-time study process consists of introductory session (studies in classroom - lectures and practical classes), students' individual work (tests, reports, term papers, professional practices and examination session. In accordance with the specifics of the study course, study course programs provide for lectures, practical classes and students' individual work. Contact lessons are organized considering that students have different experience and prior knowledge. In addition to the presentation of topicalities in the field in the form of a lecture, the acquisition of new knowledge is based on the ability to integrate knowledge from different fields, contribute to the creation of deeper or expanded knowledge, the development of methods for research or professional activities, depending on the specificity of a course in question. During the lectures, students are asked questions and encouraged to have discussions. During practical classes, on the basis of practical examples students carry out analysis, calculations and draw conclusions grounding on theoretical knowledge obtained during the study courses. Students, in accordance with the study program, do homework, make presentations and write tests, as well as independently acquire certain subjects of a course.

In order to meet the individual learning needs of students, individual consultations have been assigned an essential role (20 hours per semester). Lecturers' consultation schedules are publicly available at the RTA website and easily accessible in the faculty. Communication between students and lecturers can also take place via telephone, e-mail, Skype, e-course website (www.ekursi.rta.lv) in communication platform *Microsoft Teams*.

At the end of each study course and in the process of its acquisition, the lecturer shall analyse the learning outcomes, student surveys are conducted. The results are discussed at the Council of Academic Direction and the General Meetings of lecturers of Academic Direction. If necessary, adjustments to the study outcomes of specific study courses are made.

Individual approach to students is provided in the following way:

- orientation and examination sessions are scheduled for the weekends; Saturdays and Sundays, between 8.00 and 20.00;
- students are provided handouts (during classes) and study course materials, available on ecourse website at ekursi.rta.lv;
- in the case a student has not been able to attend a orientation or examination session for justifiable reasons, the lecturer shall agree on individual consultations with the student;
- when organising research work (selection of a topic for study papers and qualification paper), the sphere of interests of students (previously acquired experience in the development of scientific works), the specific nature of practical work and experience shall be respected;
- when organizing the research work (selection of a topic for study papers and qualification paper), students' preferences for the scientific supervisor shall be taken into account, thereby facilitating the interpersonal communication and consequently increasing the quality of the research work;
- lecturers are available to students during their consultation hours as well as for individual consultation when agreed;
- information about the changes in the study process, corrections of practical works etc. is mainly sent to students via e-mail. For this purpose, a uniform e-mail has been created for RTA students [name.surname@edu.rta.lv](mailto:firstname.surname@edu.rta.lv), which is assigned to all matriculated students.

To achieve the learning outcomes, the RTA library is available for students' needs, computer classrooms are available in the Academy's premises, Wi-Fi wireless Internet is freely available. Form of implementation of the study programme – part-time studies determine the personal interest of students in acquiring new knowledge and skills, increasing the level of their professional education and competitiveness in the labour market. On the other hand, the commencement of the study programme for full-time studies will encourage the people who have acquired the first-level professional higher education to continue their studies and obtain second-level professional higher education, thereby increasing the level of their professional education and competitiveness in the labour market.

In order to achieve the results of the study programme and to develop particular skills in the programme, course papers are practiced, which are a part of the professional specialization study course. The course papers are as follows: "Water supply and sewerage" (1 CP), "Construction technology" (1 CP), "Heating, ventilation and gas supply" (1 CP), "Metal constructions" (1 CP), "Wood and synthetic material constructions" (1 CP), "Reinforced concrete and stone constructions" (1 CP), "Construction design" (2 CP). The learning outcomes of the course papers are coordinated with the learning outcomes of the respective study course. For example, by mastering the study course "Wood and synthetic material constructions" (2 CP) and defending the course work "Wood and synthetic material constructions" (1 CP), students have got acquainted theoretically with wood and synthetic material constructions and their calculation methodology and are able to practically perform wooden construction calculations of elements according to limit states of load-bearing capacity, calculations of loads, calculations of bent, compressed and stretched elements of different cross-sections, calculations of wooden elements in crooked bending, and other related tasks.

We believe that the established system of professional specialization study courses and corresponding course works is able to fully ensure the implementation of the learning outcomes of

the study programme.

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

The study programme envisages professional internship outside the educational institution in the amount of 20 CP. It includes two parts - Internship at a construction site (10 CP) in the 4th semester and Qualification internship (10 CP) in the 6th semester. In addition, separate study courses are implemented in the form of practicums, for example, Geodesy practicum (2 CP) in the 2nd semester, which is based on the acquired theoretical knowledge about the basic principles of geodesy, types of measurements and areas of application. To carry out a practical task, the skills acquired in laboratory work are applied. The geodesy practicum covers a wide range of applications - installation and surveying of geodetic network points, linear surveying of buildings or demarcation of building axes and other building elements in the area, inspection of engineering communications, surveying, preparation of topographic plan or plan of ground relief. Geodesy practicum can include both technical and high-precision measurements, their analytical processing and analysis of results.

The internship at the construction site is focused on the fulfillment of the study outcomes specified for the study programme. It is based on the use of the acquired knowledge and previous experience and the acquisition of practical skills at the construction sites of internship organizations. The aim of the internship is to acquire practical construction skills and get acquainted with the activity of a construction manager in a relevant construction site, the activity of which is directly or indirectly related to construction. At the same time, students must use their theoretical knowledge to perform different practical work of this company, improve technology, learn methods and techniques. In accordance with the objectives of the internship, internships at construction sites take place in companies and organizations where construction works are regularly performed, including industrial facilities, residential houses, roads, bridges, canals, hydroelectric power plants, and other constructions. The tasks of the internship at the construction site are as follows: 1) to get a complete idea about the operation of the internship company, its goals and methods, the place and role of the company in the general economy system, and its working relations with other regional, Latvian and foreign organizations, learn about company structure and structural units; 2) to perform the whole work complex, working in the respective workplace in one of the structural units, to acquire specific work skills and methods of the builder and construction manager; 3) to get acquainted with production techniques, technological processes, sources and types of their impact on the environment, nature protection, control and restoration measures that are solved in the construction company, the course and methods of solving them, to use their theoretical knowledge in performing practical tasks; 4) to fulfill the individual task related to the improvement of construction equipment, technology, assessment of pollution and impact on environment; 5) to collect, summarize materials and compile a report on the internship. The methodological instructions contain the internship process, a description of the duties to be performed on the construction site, requirements for drawing up the internship report.

Students have **qualification internship** in construction companies, construction organizations or factories in accordance with the topic of qualification work chosen by students in the field of construction with the application of environmentally friendly technologies. Environmentally friendly

construction technologies include not only equipment, but also materials, knowledge, services, organizational and management skills. Internship organizations, construction companies or factories located near RTA and in other regions of the country, or abroad should be chosen according to the training profile of specialists. The main tasks of qualification internship are 1) to use and improve the knowledge and practical skills that students have acquired in the study process; 2) to get acquainted with a construction company and construction technologies; work organization and production; 3) to acquire organizational work skills in the chosen specialty; 4) to collect the materials necessary for the development of the qualification paper, to carry out the necessary experiments and research. The methodological instructions of the qualification internship stipulate the course of the internship, the requirements for compiling the internship report. Special attention is paid to **duplicating the work of construction workers and construction managers** in accordance with the specialty, where students learn the duties and rights of the position of construction worker, construction foreman, work manager; the rules for acceptance and transfer of the shift; get acquainted with the procedure for ordering raw materials, equipment, spare parts, with material responsibility; do research on labor protection regulations (safety equipment), fire safety measures at construction sites and study the compliance of nature and environmental protection regulations with the norms in construction works.

Internship report diaries have been developed for both professional internships, which students fill in during the internship and on the basis of which the internship evaluation takes place. Internship diaries for students are available in the RTA DVS section for Students.

Professional internship and practicums are an essential part of the study programme, which ensures the fulfillment of the study outcomes, goals and tasks set for the programme, is aimed at the development of the final qualification paper and demonstration of the construction manager's competence at the 1st level professional higher education study level.

In order to facilitate the fulfillment of qualification internship tasks for students, RTA has concluded basic internship agreements (see them in Annex 13), but it is also allowed to have internships in other companies of the student's choice. RTA provides full internship documentation (methodological instructions, report) to support the student. The head of the internship at RTA helps the student to formulate individual tasks (in construction, economics, production organization and planning, special technology, etc.), coordinates the topic of the qualification paper and individual tasks in special issues, consults students during the internship, provides methodological recommendations on compiling the diary and internship reports.

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

The final qualification papers in the study programme are developed on the basis of the Methodological guidelines for the development and defense of study research papers, **RTA common methodological guidelines for the development and formatting of the qualification paper and the 1st level professional higher education study programme "Construction"** available in the RTA document management system in the section [Studentiem](#). The task of the qualification work is prepared by the supervisor of the qualification work in accordance with the methodological guidelines and is approved by the head of the study direction "Architecture and Civil Engineering". The qualification work covers 1) **the general part**, which

includes the description of the documents and materials required for the commencement of construction design, the description of the land, the engineering geological research materials of the land plot. The part of the qualification work 2) **architectural solutions** includes the section of the territory (description of the general plan, main indicators of the construction site) and the section of architecture (spatial and layout description of the building, internal and external decoration of the building, specifications, decoration tables). 3) In the part of **engineering solutions**, students describe building structures, water supply and sewerage, heating, ventilation and air conditioning, heat supply, electricity supply, environmental protection measures. 4) In the part of the **organization of construction work**, a summary of constructions and materials is provided, the amount of construction work and the project of work organization and performance are described. In the fifth chapter 5) the **calculation (estimate) of construction works** is developed. 6) The **graphic part of the construction object** (GP, AR, BK, AVK, ŪK, DVP-1, DOP, DVP-2) is added to the qualification work.

The topics of the qualification work show the specialization of the study programme in **building construction, reconstruction and rebuilding**. The most typical types of buildings in qualification works are residential buildings, educational institutions (schools, pre-school educational institutions), cultural and entertainment buildings, business buildings, farm buildings (including livestock buildings), buildings of internal security services (border guard, fire departments), etc. The **geography** of buildings and structures studied in the qualification works mainly covers whole Latvia. For example, in the last two years 167 qualification works have been defended in the study programme. The majority of students have developed projects for Latgale cities (69%), which can be clearly explained by the students' "geography". From all 2020-2021 academic year study programme students, 53% of them come from Latgale region, 21% - from Vidzeme, 10% - from Zemgale, 1% - from Kurzeme, 16% present previously acquired higher education, which does not statistically indicate the place of origin. Respectively, 15% of all final theses were developed in Vidzeme location, 6% - in Zemgale, 1% - in Kurzeme, 9% of works do not include the information about the location.

The geography of the students and final theses of the study programme confirms the topicality of the study programme in the field, including the labor market, because most students choose to design buildings and objects related to their place of residence or place of professional activity.

Trends in the evaluation of final theses show that there is little number of final theses that are evaluated with the lowest positive mark (4 - almost good; 4% of evaluations) and the highest mark (10 - with distinction; 4% of evaluations). 9% of theses were assessed with 5 (satisfactory), while 7 (good), 8 (very good) and 9 (excellent) make up the majority of the final theses (58%). Together with the study papers that have received the highest positive evaluation (10 points, with distinction), evaluations in the range of 62% indicate successful study results and presentation of successful learning outcomes.

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

In accordance with the Regulations on the Procedure for organizing surveys at RTA approved by the RTA Study Council, surveys of students, graduates and employers were regularly conducted in the RTA professional study programme "Construction".

Student surveys are traditionally conducted twice a year - at the end of each session. Students were offered to evaluate the significance of study courses, the quality of teaching, the availability of information, and other questions concerning study courses that were in the survey semester. The results of the surveys are available in a summarized form in the RTA internal document management system. Regarding the study programme, they show some sustainable trends. First of all, students name study programme professional specialization courses such as "Labor protection", "Fine geometry and civil engineering graphics", "Theoretical mechanics", "Higher mathematics", etc. as important ones. Students consider that general education courses such as "Introduction to humanities" and courses which, in their opinion, do not provide a sufficient level of teaching quality, are less important. Thus, after repeated negative evaluation of students about the study course "Construction Physics", the lecturer was changed and students' feedback on the study course improved. In general, students evaluate their satisfaction with the study programme as "satisfied" (70%) and "fully satisfied" (30%), 100% of students are satisfied with the schedule of classes, availability of textbooks and information about the study process, 90% believe that the study programme has sufficient range of elective courses and electronic resources. 100% of students believe that it is possible to successfully acquire the study programme remotely. Concerns about the quality of studies is risen by students' answers to the question how many hours a week they spend on independent work, where there were two extremes: 80% of students showed insufficient amount of independent work (1-7 hours per week), 20% - too much (24-48 hours a week). At the study direction meeting this issue was raised and it was decided to develop specific tasks of independent work in more detail, including them in the formative evaluation block. In order to provide students with permanent access to the tasks of independent work and their assessments, it was decided at the study direction meeting to purposefully supplement the content of study courses on the RTA e-course website by the autumn semester of 2021.

Until AY 2019-2020 the Faculty of Engineering practiced paper-based surveys, where students recorded their recommendations for improving the quality of studies. Summarizing students' recommendations in surveys in the period from AY 2015-2016 until AY 2019-2020 several thematic groups of recommendations can be distinguished. Firstly, recommendations for supplementing the literature and electronically available resources. In cooperation with the RTA Library, new teaching aids in Latvian have been purchased, the range of electronically available information has been enlarged. Secondly, to increase practical study courses, organize more excursions and practical work. Before the pandemic, profiling tours of construction sites, water treatment and wastewater treatment systems, etc. were organized during profiling courses. Thirdly, inform about changes in the lecture schedule in a timely manner. Each student has access to a mobile application, where the changes made are immediately visible, as well as the information is sent to the student's e-mail. Finally, objections to the small number of scholarships in the study programme. In this matter, in cooperation with the representative of the students' self-government of the Faculty of Engineering and the RTA Scholarship Commission the explanatory work on the principles of awarding scholarships and its regulatory framework is done on a regular basis.

The survey of graduates at RTA is organized by the RTA study department. In September AY 2016-2017, a survey of graduates was conducted on the quality of studies and the commencement of work. Graduates note that the choice to study at RTA was determined by the interest in the content of the programme and the fact that the university is close to home, the study programme was generally satisfactory, the acquired knowledge was most useful at work, scientific work skills and ability to independently analyze scientific literature were acquired. Graduates **recommend** to include the acquisition of Lirasoft and similar programmes in the study programme. Despite the fact that the study programme partially met the expectations of students when starting the studies, the graduates recommend this study programme to others. The graduates praised the material and technical base of RTA, which was completely satisfactory.

In the academic year 2017-2018, graduates note that the choice to study at RTA was determined by the interest in the content of the programme and the appropriate study schedule. The study programme is evaluated as excellent, the acquired knowledge was very useful at work and also in personal growth, students were fully satisfied with material and technical provision in the study process, scientific work skills were fully or partially acquired, the ability to independently analyze scientific literature was developed. Graduates recommend to include more practical classes in the study programme, as well as topics on "application of regulatory enactments in resolving conflicts in construction dispute situations." Students consider that it was useless to learn psychology and English, but one graduate notes that there are no useless subjects for growth and education saying "I found all subjects useful." The study programme fully met the expectations when starting the studies and the graduates recommend this study programme to others.

There were 7 answers received to the survey of graduates of the academic year 2018-2019. Graduates note that the choice to study at RTA was determined by the fact that RTA is close to the place of residence (4 graduates) and the study schedule is suitable (3 graduates). The study programme is evaluated as excellent-1 student, good-2, satisfactory-3, one student evaluates the study programme as unsatisfactory. The acquired knowledge was very useful at work for one graduate and in personal growth for 6 students. Students in the study process were fully (3 graduates) or partially (4 graduates) satisfied with material and technical provision. The scientific work skills and ability to independently analyze scientific literature were fully acquired by 5 graduates and partially by 2 graduates. Graduates recommend to include the topics or courses in the study programme as follows: "Documentation of construction work, its formatting", "Management psychology", "Building constructions and Building construction design", "Construction legislation", "German language". Students believe that it was useless to study courses such as "Psychology", "Organizational Psychology", "Autocad", "Chemistry", "Laboratory Work", "Project Management". The study programme fully met the expectations of 2 graduates at the beginning of their studies, and 5 students were partly satisfied. Graduates provide suggestions for improving the programme. 6 graduates recommend this programme to others, 1- partly.

Graduates of the academic year 2019-2020 evaluate the study programme as good (90%) and excellent (10%). 90% indicate that the acquired knowledge is useful for work, 10% - for personal growth. Students note that the courses "Construction Physics" and "Enterprise Finance" should be included in the study programme. It was proposed to schedule classes in the evening. All respondents in the survey indicate that they work in the private sector and salary is over 900.00 EUR. 90% of the respondents indicate that they do not continue their studies, but work in their specialty, 10% work in another specialty.

Employers are interviewed directly by contacting them, meeting at various meetings, as well as by conducting a survey using the google tool. According to a survey of employers, they are generally satisfied with graduates. In 2020, the companies SIA „Ceļi un tilti", SIA "Latgalija", SIA PMK "Energoceltnieks", SIA "Kind service" and other in which the graduates of the programme work, participated in the survey of employers.

As a result of the survey, it can be concluded that 100% of employers are satisfied with the professional competence of the graduates, which can be assessed very positively. When asked whether the theoretical knowledge of the graduates is sufficient to perform the duties of the position, 78% of the respondents indicated that they are sufficient, while 22% - partially sufficient. When talking to employers about the graduates, most often graduates have insufficient specific knowledge related to a specific field, especially in road construction. Regarding the sufficiency of practical skills for performance of official duties, 70% of the respondents indicated that practical skills are sufficient, 24 % that they are partially sufficient, while 6% indicated that they are not sufficient. It should be noted that 100% of employers acknowledge that graduates show

professional growth. Answering the question: What advantages do you see in the training of specialists of the relevant study programme at RTA?, RTA hinders the outflow of young people from the region, and thus of an educated and teachable work resource is available, prepares competitive professionals who remain to work in the region. Regarding the graduates, it was pointed out that the graduates are a qualified workforce, motivated, take a responsible attitude to official duties, are able to work in a team, good knowledge, ability to apply them. Employers were also asked to highlight shortcomings. It must be admitted that some employers mentioned that they do not see any shortcomings or, in comparison with graduates of other higher education institutions, no specific shortcomings have been established.

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

Studies abroad is ensured to RTA students by inter-university cooperation agreements, for example, in the framework of the ERASMUS + program. The number of agreements is increased according to the interests of the study programs. In this study direction, RTA concluded contracts with universities in Greece, Czech Republic, Germany, Estonia, Norway and other countries, which provide a wide range of choice for ERASMUS mobilities. Each student can choose to acquire the volume of studies of one semester / year and one professional practice at a partner university.

The dominant number of mobilities in the study programme in the period from 2012 to 2020 is internship mobility. The largest number of them (13 students) used the opportunity of internship mobility in Greece, Norway (4), Bulgaria (4), two mobilities in the Czech Republic, Estonia and England. During the period from 2012 to 2020 the study mobilities were organized at the University of Technology and Economics in Ceské Budejovice (6), University of Applied Sciences in Estonia (1) and Mugla Sitki Kocman University, Turkey (1). RTA mobility in the study programme is assessed as satisfactory. More active mobility is hindered by the fact that 73% of students belong to the age group 30+, are working and due to work and family conditions cannot afford to spend a 3-month study or practice period outside Latvia. In order to promote mobility, the RTA, in accordance with the requirements of the Erasmus Charter, fully recognizes the amount of study courses acquired abroad, if they have been assessed positively there. In order to ensure the recognition of study courses successfully acquired in mobility, the student, RTA and the host higher education institution sign ECTS - EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM LEARNING AGREEMENT, which stipulates the study courses to be acquired and makes changes if necessary. The procedure for recognition of study courses acquired abroad is regulated by the Regulations on academic recognition of study courses at RTA.

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

3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of

the study programme and the learning outcomes to be achieved by providing the respective examples. Whilst carrying out the assessment, it is possible to refer to the information provided for in the criteria set forth in Part II, Chapter 3, sub-paragraphs 3.1 to 3.3.

See the description of the study programme materials, technical and informative base in Part II Chapter 3 sub-paragraph 3.1 to 3.3. – the information is provided in criteria.

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

Not applicable.

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

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

During the reporting period, several improvements have been observed in the composition and competence of the academic staff. First, the proportion of elected academic staff has increased from 53% in 2013 to 57% in 2021, the number of doctors has increased from 4% to 8%. If in 2013 there were 1 associate professor, 4 assistant professors and 20 lecturers who participated in the implementation of the programme, accordingly there were 2 professors, 2 associate professor, 4 assistant professors, 2 guest assistant professors, 4 lecturers and 9 visiting lecturers in 2021.

Significant improvements can be observed in the synergy of pedagogical and scientific work of the teaching staff. 9 (41%) of the teaching staff are simultaneously elected to pedagogical and scientific positions. The lecturers elected to academic positions actively participate in scientific conferences and publish in Latvian and international scientific journals, including preparing joint scientific publications with both Latvian and foreign researchers. All the changes in the composition of the teaching staff indicate the growth and development of staff.

4.2. Assessment of the compliance of the qualification of the teaching staff members (academic staff members, visiting professors, visiting associate professors, visiting docents, visiting lecturers, and visiting assistants) involved in the implementation of the study programme with the conditions for the implementation of the study programme and the provisions set out in the respective regulatory enactments. Provide information on how the qualification of the teaching staff members contributes to the achievement of the

learning outcomes.

The selection of the members of teaching staff in the study programme takes place in accordance with the RTA Development Guidelines for the Academic Staff, as well as on the basis of the aims, tasks, planned learning outcomes of the Programme and the principles of student-centred approach in the study process of RTA. The aim of the programme defines **two main principles** in selection of the teaching staff:

- in order to ensure conditions for high-quality student training in the construction industry, the programme attracts lecturers with professional experience in specialties corresponding to the programme profile (labor protection, power supply, construction machinery, roads and bridges, geodesy, water supply and sewerage, etc.);
- in order to increase the competence of the teaching staff, to give an opportunity to learn from each other, the model of teaching staff cooperation is applied in the study process, teaching the study course together. 11 of the study courses of the programme are **implemented and evaluated by two or three lecturers**. Teams of teaching staff are formed according to two principles: 1) the study course is taught by an experienced practitioner and researcher with practical work experience (e.g. study courses Geodesy, Geodesy Practicum, Fine Geometry and Civil Engineering Graphics) (visiting lecturer A. Avots, researcher A. Skromulis) , Construction physics (J.Pīgoznis, A.Martinovs); 2) the study course is taught by lecturers who specialize in one of the thematic sections of the study course and complement each other (study courses Information and Communication Technologies (lecturers J.Musatovs, M.Kijaško, A.Zorins), Environmental and civil protection (E.Šīļiņa, Ē.Teirumnieka) etc.).

For an overview of the teaching staff employed in the study programme, see Chapter 3.6. Latvian is the mother tongue of all lecturers employed in the programme (except for one visiting lecturer).

All the elected lecturers take **professional development training “Innovations in Higher Education”** once per the elected period, receiving a confirmatory certificate required by the RTA in the election process as one of mandatory conditions.

The qualifications of teaching staff are the most important factor in vocational study programmes and in achieving the results of the studies they raise. This programme therefore also takes into account not only education but, in particular, specialisation, professional experience when selecting teaching staff.

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

Not applicable.

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

Not applicable.

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

See Chapter 4 for information.

Project grant of Science Council of RTA for year 2017. Project No 13.15/9: *New functional composite materials from carbon fiber and fiber crops*. Involved in the project: A.Martinovs, Ē. Teirumnieka.

Project grant of Science Council of RTA for year 2018. Project No 16.7/1: *Enhancement of exposure resistance to composition materials*. Involved in the project: A.Martinovs, Ē. Teirumnieka.

Project grant of Science Council of RTA for year 2018. Project No 16.7/6: *Material impactor testing equipment II*. Involved in the project: A.Martinovs, Ē. Teirumnieka.

ERASMUS+ KA2 "Improving the professional skills in green constructions through online training". Project No. 2017-1-LV01-KAS202-035483. 2018. Involved in the project: S.Pleikšnis, Ē. Teirumnieka.

Rural Support Service project "Innovative solutions for the treatment and processing of industrial hemp". No. 18-00-A01612-000026. Leading researcher. 2020. – 2022. Involved in the project: Ē. Teirumnieka.

The teaching staff involved in projects shall transfer the knowledge and competences acquired during the implementation of projects to students, involving them in discussions and a problem analysis on, for example, new functional materials, material interoperability, endurance, green construction trends, etc.

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

The collaborative models of the teaching staff involved in the programme are broadly in line with self-evaluation report specified in section 3.4.4 and 4.4.4. . The cooperation of the teaching staff in the study programme presents several frameworks typical of the specifics of the RTA activity:

- **the cooperation of the elected academic staff - visiting lecturers** can be assessed as generally successful, because the elected academic staff forms the academic core of the study programme, which is supplemented by guest lecturers. In this framework, RTA has identified a number of tasks affecting the pedagogical and methodological support of guest lecturers, especially when starting academic activities. For this purpose, RTA offers free professional development courses, which guest lecturers are not always able to use due to their professional workload.
- **interdisciplinary cooperation of the academic staff** – the programme employs teaching staff of different fields, who can discuss topical issues when meeting in the general meetings of the study direction. Particularly productive cooperation for the study programme is with the study direction "Mechanics and metalworking, heat energy, heat engineering and mechanical engineering". Lecturers conduct joint research and participate in the implementation of study courses.
- **cooperation of teaching staff and supportive staff.** The cooperation of the teaching staff and ICT specialists is especially important for the implementation and development of the study programme, ensuring the cooperation of the teaching staff and general staff during the remote studying due to pandemic. RTA has created its own internal document management system, which also contains cooperation planning and control options. In RTA, the greatest part of cooperation models during the emergency are ensured using the Microsoft Team platform.
- **cooperation between teachers and students.** In March and April 2020, as a result of the influence of Covid-19 pandemic the authorities declared emergency situation in Latvia, which determined the priority of new cooperation models. The study process at RTA was implemented remotely, using all the possible remote communication tools. In RTA, the dominant communication portal was the website of study courses ekursi.rta.lv, as well as online tools Microsoft Teams, Zoom, WhatsApp, Skype, etc.

At the moment of submitting the self-assessment report, the RTA has developed the procedure for implementation of distance learning and the first evaluation of the distance learning stage is being performed.

The ratio of the number of teaching staff to the number of students in the program "Construction" full time studies is **23.5**, acquired by dividing the number of FTE of the students in the programme (35.2) by the number of FTE of the teaching staff (1.5). According to OECD data, the average indicator of Latvia is 16, the average ratio of the average student ratio in other OECD countries is 1.5.

Annexes

| III. Description of the Study Programme - 1. Indicators Describing the Study Programme | | |
|--|---------------|------------------|
| Compliance of the joint study programme with the provisions of the Law on Institutions of Higher Education (table) | | |
| Statistics on the students over the reporting period | Annex 1.docx | 1.pielikums.docx |
| III. Description of the Study Programme - 2. The Content of Studies and Implementation Thereof | | |
| Compliance of the study programme with the State Education Standard | Annex2.docx | 2.pielikums.docx |
| Compliance of the qualification to be acquired upon completion of the study programme with the professional standard (if applicable) | Annex_3.docx | 3.pielikums.docx |
| Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable) | | |
| Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme | Annex_4_.xlsx | 4.pielikums.xlsx |
| Curriculum of the study programme (for each type and form of the implementation of the study programme) | Annex_5_.docx | 5.pielikums.docx |
| Descriptions of the study courses/ modules | Annex_6.docx | 6.pielikums.docx |
| Description of the Study Direction - Other mandatory attachments | | |
| Sample of the diploma to be issued for the acquisition of the study programme. | Annex 7.docx | 7.pielikums.docx |
| Description of the Study Programme - Other mandatory attachments | | |
| Document confirming that the higher education institution/ college will provide the students with the options to continue the acquisition of education in another study programme or at another higher education institution/ college (a contract with another accredited higher education institution/ college), in case the implementation of the study programme is discontinued | Annex 8.docx | 8.pielikums.pdf |
| Document confirming that the higher education institution/ college guarantees to the students a compensation for losses if the study programme is not accredited or the licence of the study programme is revoked due to the actions of the higher education institution/ college (actions or failure to act) and the student does not wish to continue the studies in another study programme | Annex 9.docx | 9.pielikums.pdf |

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|--|------------------|-------------------|
| Confirmation of the higher education institution/ college that the teaching staff members to be involved in the implementation of the study programme have at least B2-level knowledge of a related foreign language according to European language levels (see the levels under www.europass.lv), if the study programme or any part thereof is to be implemented in a foreign language. | | |
| If the study programmes in the study direction subject to the assessment are doctoral study programmes, a confirmation that at least five teaching staff members with doctoral degree are among the academic staff of a doctoral study programme, at least three of which are experts approved by the Latvian Science Council in the respective field or sub-field of science, in which the study programme has intended to award a scientific degree. | | |
| If academic study programmes are implemented within the study direction, a document confirming that the academic staff of the academic study programme complies with the provisions set out in Section 55, Paragraph one, Clause three of the Law on Institutions of Higher Education | | |
| Sample (or samples) of the study agreement | Annex 10.docx | 10.pielikums.docx |
| If academic study programmes for less than 250 full-time students are implemented within the study direction, the opinion of the Council for Higher Education shall be attached in compliance with Section 55, Paragraph two of the Law on Institutions of Higher Education. | | |