

## APPLICATION

### Study field "Architecture and Construction" for assessment

Study field	<i>Architecture and Construction</i>
Title of the higher education institution	<i>Rīgas Celtniecības koledža</i>
Registration code	<i>3347001284</i>
Legal address	<i>GAIZIŅA IELA 3, LATGALES PRIEKŠPILSĒTA, RĪGA, LV-1050</i>
Phone number	<i>67229714</i>
E-mail	<i>sekretare@rck.lv</i>

# **Self-evaluation report**

Study field "Architecture and Construction"

Riga Building College

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# 1. Information on the Higher Education Institution/College

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

Riga Building College (RBC) is a professional higher education institution under the supervision of the Ministry of Education and Science, with a professional secondary school as a structural unit.

Riga Building College is one of the oldest educational institutions in Latvia and will be 150 years old in 2022. RBC is the only educational institution in Riga and the Riga region offering professional education in construction at LQF level 4 and LQF level 5. Riga and the Riga region is the territory where the majority of construction projects in Latvia are implemented, as well as the territory where the majority of Latvian construction companies reside and operate.

Riga Building College offers the opportunity to obtain qualifications in construction, architecture and restoration at two levels of education - professional secondary education and short cycle professional higher education, ensuring continuity of education levels over a 7-year period. At the end of each stage, it is possible to enter the labour market as a fully qualified professional in the relevant field.

Latvian Qualifications Framework	Qualifications awarded by the RBC
LQF level 5	<ul style="list-style-type: none"><li>• Building Construction manager</li><li>• Engineering Construction manager</li><li>• Architectural technologist</li><li>• Restorer</li></ul>
LQF level 4	<ul style="list-style-type: none"><li>• Building technician</li><li>• Finishing work technician</li><li>• Engineering communication technician</li><li>• Architectural technician</li><li>• Restoration technician</li></ul>

RBC is the only educational institution in Latvia offering programmes in architectural technology and applied restoration. The Restoration studies programme is particularly unique. RBC is also the only educational institution in Riga offering qualifications in building construction management and engineering construction management.

### Mission

- to provide the construction sector with highly skilled professionals - the builders of a modern, people- and environment-friendly living environment.

### Vision (overarching goal)

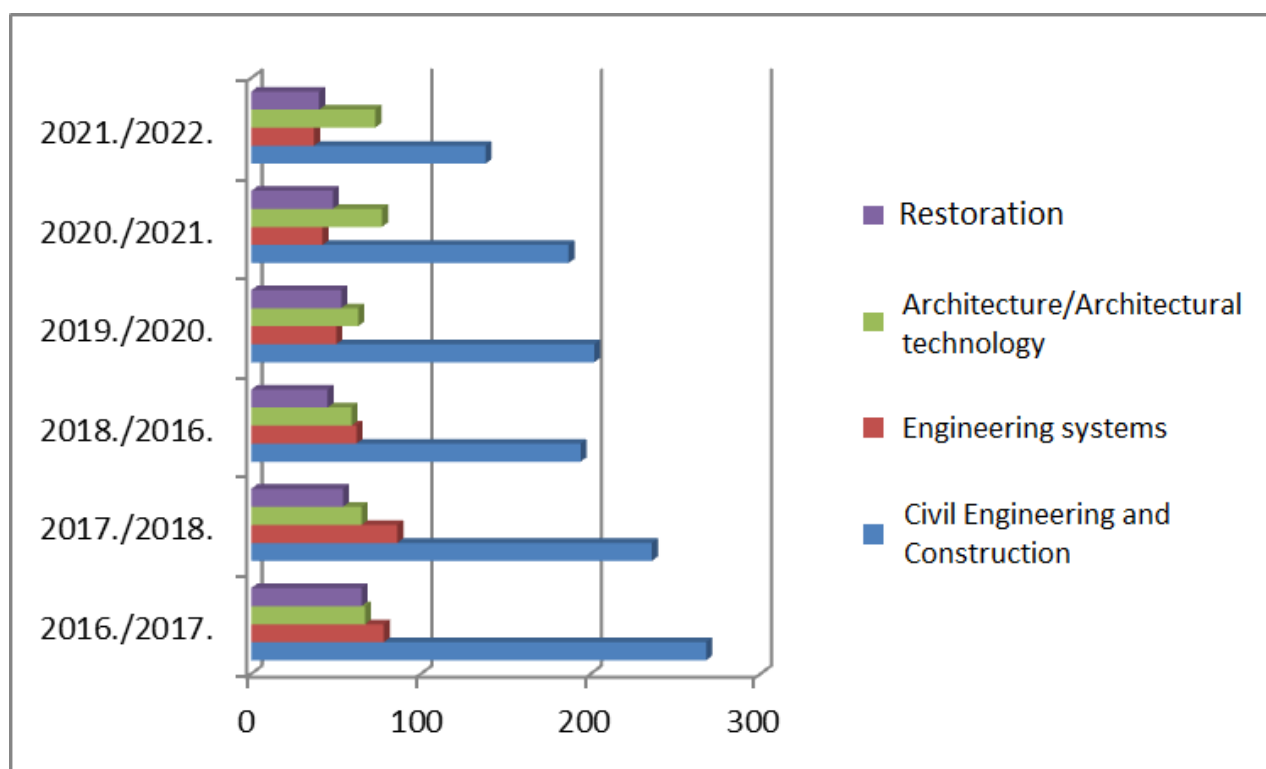
- A modern, innovation- and growth-oriented, internationally renowned college of construction, architecture and restoration.

### The fields of study implemented and the number of study programmes within them

Field of study	Number of study programmes	Study programmes
Architecture and Construction	3	Architectural technology Construction Engineering systems
Art	1	Restoration

### Dynamics of the number of students during the evaluation period (2016 - 2022)

Study programmes	2016/2017	2017/2018	2018/2016	2019/2020	2020/2021	2021/2022
Construction	268	236	194	202	187	138
Engineering systems	78	86	62	50	42	37
Architecture/architectural technology	67	65	59	63	77	73
Restoration	65	54	45	53	48	40
Total	478	441	360	368	354	288



The general demographic situation in the country plays a major role in the changes in the number of applicants, which is beyond the control of the College.

The decrease in the number of students is also due to a gradual decrease in budget places from **302** (2016) to **212** budget places (2022).

**Strategic priorities and lines of action:**

- modern study facilities and infrastructure;
- high quality study process;
- research;
- development of adult education.

**The main objectives of the Development strategy of the College:**

- A modern, innovation- and growth-oriented educational institution;
- Improving the qualifications and skills of College staff as a continuous process;
- Developing new study programmes in partnership with industry and analysing the labour market demand;
- Introduction of Building Information Modelling (BIM) as a unifying digital process in all RBC study programmes;
- Creating a modern, state-of-the-art infrastructure;
- Developing professional qualification programmes for adults with a certain initial level of education. Offer of specific courses for learning technology and skills.

**Detail of the strategic objectives figure is given in Annex "1.1. Detailing of strategic objectives.pdf".**

[Development and investment strategy of Riga Building College](#) is available on home page.

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

The representative, governing and decision-making bodies of the College are the College Council, the Head of the College (Director) and the Internal Audit Committee.

The Council is the collegial management and decision-making body of the College staff. The Council is composed of 13 members: the Director, the Deputy Director, six representatives of academic staff (the College is their main place of work), two representatives of general staff, and three representatives of the Student Council

The Director is the chief executive officer of the College, who exercises the general administrative and economic management of the College and represents the College without any special authority. The Ministry of Education and Science is the College's supreme governing body and decision-making authority in the strategic, financial and economic areas.

The Internal Audit Committee shall be composed of one academic staff representative, one general staff representative and one Student Council representative.

**1.3. Description of the mechanism for the implementation of the quality policy and the procedures for the assurance of the quality of higher education. Description of the**

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

Considering that the mission of the College is to provide the Latvian economy with specialists who are necessary for the industry, who contribute to the competitiveness of the industry, and who are competitive both in the local labour market and abroad, the College prepares middle level specialists with short cycle professional higher education in construction, architecture, engineering systems and restoration. The aim of the Quality Policy is to contribute to the realisation of the College's mission by setting out the principles that can be used to ensure a consistently high quality of College activities.

In 2012, the College performed inventory and assessment of the internal regulatory enactments and developed a quality management policy and objectives for the College. In 2012, in cooperation with the consulting firm "Zygon Baltic Consulting Latvia", a digitally interactive quality management system (DIQMS) was developed and implemented in accordance with the requirements of the ISO 9001 standard. Quality manager training was undertaken and internal quality auditors were prepared. The quality management system is regularly reviewed, analysed and updated every year to reflect current processes and legislation. The quality management system covers the processes related to the core activity of the RBC - implementation of the study process (core processes), as well as management processes and support processes. Quality management aims to ensure that internal processes are transparent and that activities are carried out in accordance with the regulatory framework. A quality management team is in place, headed by the RBC Quality Manager, the College lawyer, who ensures performance of internal audits of the College. Internal audits have been carried out to check how the processes described are implemented and how they work in practice (Table Quality measures). A quality information system is in place.

Internal auditing is regulated by the "[Regulations of the Internal Audit Commission of Riga Building College](#)".

### ***The quality management of the College aims to:***

- ensure that the College operates in accordance with ESG and ISO 9001;
- ensure high stakeholder satisfaction with the education implemented by the College and the quality of other services;
- ensure that strategic objectives are met.

### ***In its activities, the College observes:***

- the valid, binding regulatory documents governing education;
- binding international regulations, requirements and guidelines, including those of the Bologna Process;
- The European Qualifications Framework;
- ISO 9001;
- Standards and guidelines for quality assessment in the European Higher Education Area

(Standards and Guidelines for Quality Assurance in the European Higher Education Area, ESG, Brussels, 2015).

### ***To achieve its objectives, the College has set itself the following goals:***

- to maintain the quality management system of the College in accordance with the requirements of ISO 9001;

- to ensure that programmes are designed and implemented in accordance with the requirements of sector-specific legislation;
- to involve industry representatives in the design and evaluation of education programmes
- to ensure a high level of qualification of staff;
- to set realistic and measurable quality objectives each year and regularly monitor their achievement.

The Quality management documentation in the College is divided into three levels:

- Documentation of basic processes;
- Documentation of management processes;
- Documentation of support processes.

The Quality Management System (QMS) of the College has been developed in accordance with the requirements of the internationally recognised and widely used ISO 9001 standard.

### Quality measurements

Performance indicators	Frequency of measurements	Place for storing measurements	Person responsible
<b>Staff</b>			
1. Results of staff appraisals	1 x per semester	HR	S. Razuvaeva
2. General staff turnover	1 x per year	HR	S. Razuvaeva
<b>Problem management</b>			
3. Number of problems identified	1 x per month	Quality system management	I. Daģe
4. Number and proportion of problems effectively solved in the total scope of problems	1 x per month	Quality system management	I. Daģe
<b>Academic staff</b>			
1. Number of elected academic staff; Structure of elected academic staff (%) in programmes by degree and position	1 x per year	Study Department	G. Rudzīte



2. Age structure of academic staff (%) by degree and position	1 x per year	Study Department	G. Rudzīte
3. Student to academic staff ratio in programmes	1 x per year	Study Department	G. Rudzīte
4. Number of academic staff in mobility programmes	1 x per semester	International Department	L. Krāge
5. Academic staff turnover	1 x per year	HR	S. Razuvaļeva
<b>Study programmes</b>			
6. Number of accredited study fields/programmes	1 x per year	Departments	Heads of Departments
7. Number and percentage of improvements in study programmes, % of total planned improvements	1 x per year	Study Department	G. Rudzīte
8. Number and % of foreign study programmes in the total number of study programmes	1 x per year	Study Department	G. Rudzīte
<b>Students</b>			
9. Number and structure of students (%) (matriculated, degree or qualification holders, exmatriculated)	1 x per year	Study Department	G. Rudzīte
10. Number of students in mobility programmes and structure (%) (foreign students, ERASMUS+, other)	1 x per semester	International Department	L. Krāge

11. Number of students in study programmes	1 x per semester	Study Department	G. Rudzīte
12. Students' results in defending qualification work (theses, diploma projects) and applied research	1 x per year	Study Department	G. Rudzīte
13. Number and percentage of graduates employed in the specialty (%)	1 x per year	Departments	Heads of Departments
<b>Resources</b>			
14. Number of library resources (books, methodological tools, databases)	1 x per year	Library	I. Ikauniece
15. Availability of IT resources (number of computers, internet coverage)	1 x per semester	IT Department	U. Timpers
<b>Funding of the study process</b>			
16. Total study programme funding	1 x per year	Accounting	I. Roze
17. Study programme funding per student	1 x per year	Accounting	I. Roze
18. Own revenue in study programme from tuition fees	1 x per year	Accounting	I. Roze
19. Own revenue in study programme from tuition fees per student	1 x per year	Accounting	I. Roze

20. Proportion (%) of total budget financed by local businesses involved to ensure study process	1 x per year	Accounting	I. Roze
21. Proportion (%) of total budget financed by international funding involved to ensure study process	1 x per year	Accounting	I. Roze
<b>Perception indicators</b>	<b>Frequency of measurements</b>	<b>Place for storing measurements</b>	<b>Person responsible</b>
1. Students' opinion on the quality of studies, quality of academic staff (surveys on the quality of study courses and academic staff, on the study programme)	1 x per semester	Departments	Heads of Departments
2. Graduates' views on the quality of their studies (survey)	1 x per year	Departments	Heads of Departments
3. Employers' views on graduates' professional training (survey)	1 x per year	Departments	Heads of Departments

**1.4. Fill in the table on the compliance of the internal quality assurance system of the higher education institution/ college with the provisions of Section 5, Paragraph 2(1) of the Law on Higher Education Institutions by providing a justification for the given statement. In addition, it is also possible to refer to the respective chapter of the Self-Assessment Report, where the provided information serves as justification.**

1.	The higher education institution/ college has established a policy and procedures for assuring the quality of higher education.	Employers, industry associations, college lecturers and other stakeholders are involved in the development of study programmes. Programmes include planned internship opportunities, including practical training. Study programmes are approved internally by the College Council.
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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.	Study programmes are designed in line with the strategic objectives of the College and have clearly defined expected learning outcomes. The College periodically evaluates study programmes to ensure that they are achieving their objectives and that they meet the needs of students and society. Programmes are regularly reviewed with the involvement of students, graduates and industry representatives. As a result, programmes are developed, updated and improved. The results of the evaluation are published.
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.	Expected learning outcomes are set out in study programmes and study course programmes; Students are familiarised with the teaching, learning and assessment procedures used. Students' study loads and progress are regularly reviewed. The effectiveness of student assessment procedures is identified. Survey and evaluation of the adequacy of the learning environment is ensured.
4.	Internal procedures and mechanisms for assuring the qualifications of the academic staff and the work quality have been developed.	The College ensures the competence of its teachers. Open and fair, transparent recruitment procedures have been established and are maintained. Innovation in teaching methods and the use of new technologies are supported, enabling students to develop their skills.
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.	Reflected in chapter 2.2.4 of the self-assessment report.
6.	The higher education institution/ college shall ensure continuous improvement, development, and efficient performance of the study field whilst implementing their quality assurance systems.	The quality assurance system supports the objectives and directions of the strategy, and cooperation with the industry and other related higher education institutions. Regular evaluation and analysis of the results of qualification work (theses, diploma projects) and applied research takes place.

## 2.1. Management of the Study Field

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

The aim of study programmes in short cycle professional higher education, according to the occupational standard, is to prepare students for practising a specific occupation.

The aim and objectives of the field of study comply with the EU Guidelines for Qualifications in the European Education Area and the European Qualifications Framework (EQF) Level 5 (Regulations on the Classification of Latvian Education, Cabinet Regulation No. 322, July 13, 2017).

The aim of the study programme is in line with the mission of Riga Building College - to train theoretically knowledgeable and practically capable specialists for the private and public sectors, emphasising the specificity of Latvia as a member state of the European Union.

"The future development of the construction and architecture sector is mostly predicted by large companies (50%). Medium-sized companies (40.9% of cases) believe that the construction and architecture sector will grow, and the same proportion of companies believe that it will remain at the same level. Small businesses (3.2%) and micro-businesses (1.4%) say that the construction and architecture sector is likely to develop rapidly, while 42% of micro-businesses say that the sector will develop and only slightly more respondents (43.8% of small businesses and 43.4% of micro-businesses) say that the sector will remain at the same level.

### Will the required workforce be prepared for the industries?

Labour shortage predicted by the Ministry of Labour in 2025



The number of learners in educational program groups

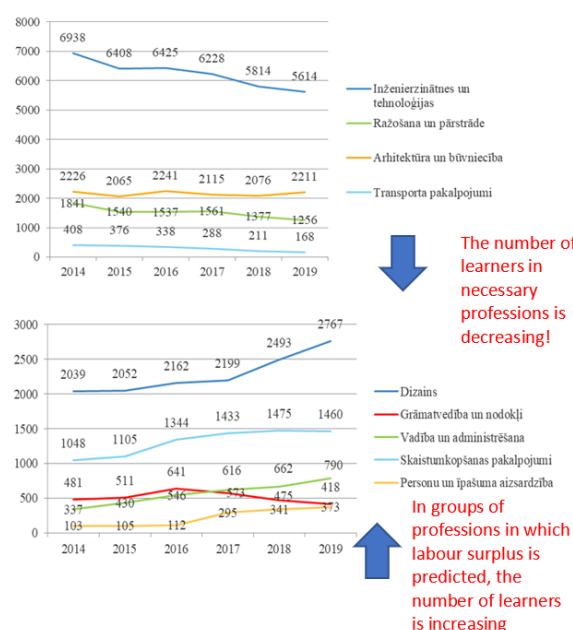


Figure Source: Materials of the Saeima Education Culture and Science Commission meeting of 9 February 2021, "Valsts kontroles veikto revīziju profesionālās izglītības jomā rezultāti\_IK.pptx" (Results of the State Audit Office audits in the field of professional education\_IK.pptx)

The data show that there is a significant labour shortage in the architecture and construction sector (lack of qualified labour is also signalled by firms in the sector), with a projected shortage of 4,941 jobs in 2025.

The report of the Ministry of Economy reflects the gap in demand between skilled specialists and unskilled workers.

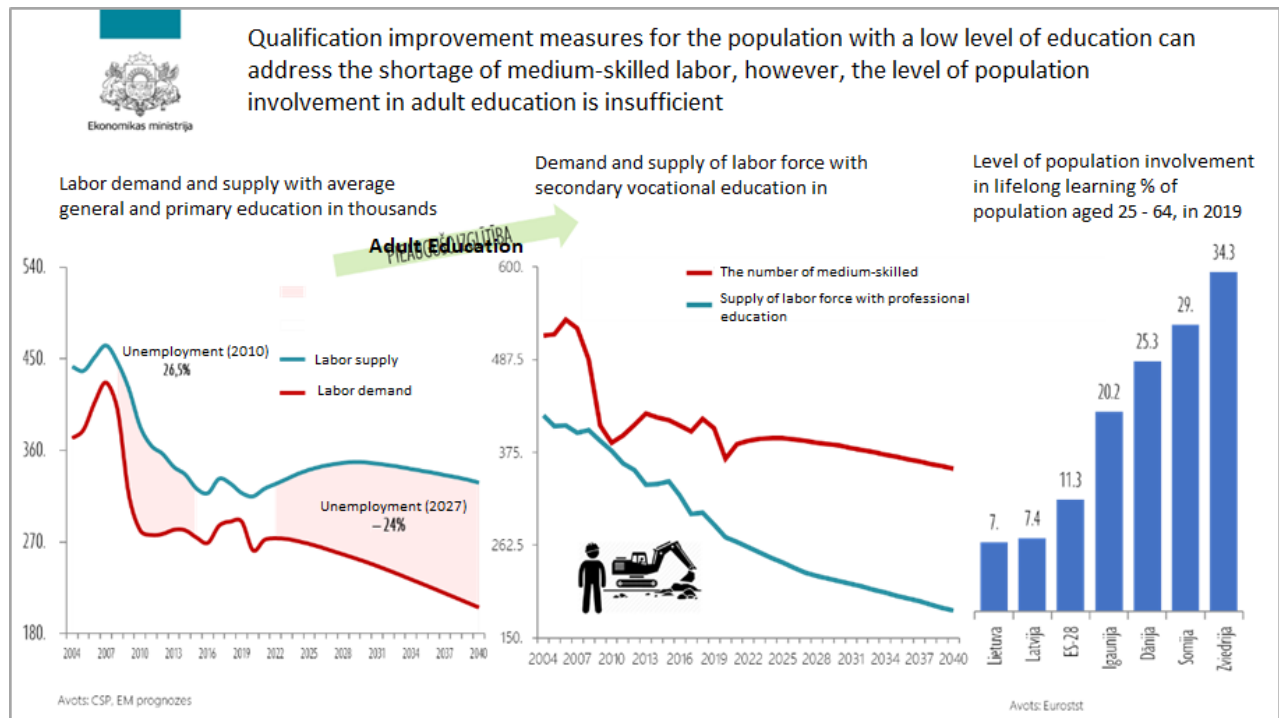


Figure source: Materials of the meeting of the Saeima Commission for Culture and Science in Education, 9 February 2021, "Ekonomikas ministrija\_9\_02\_2021.pptx" (Ministry of Economy\_9\_02\_2021.pptx).

The shortage of qualified construction managers, architectural technologists, restorers, BIM specialists and building managers is a major shortfall.

The overall global trend is towards increasing labour productivity, efficiency and value added. This can be achieved with new, advanced technologies and materials.

The construction sector in Latvia has so far underutilised the opportunities offered by scientific progress. Given the overall demographic trends, including the decline in the economically active population, the only way for the construction sector to survive is through the use of educated labour that is competent in the use of new technologies and materials. This applies both to new recruits and to the further training of the existing labour force. Technology includes not only practical skills, but also the use of Building Information Modelling (BIM), which allows for more accurate planning and control of the work to be carried out. These measures generally result in improved quality and productivity and more efficient use of labour.

Here, RBC has the opportunity to play a leading role in the training and further education of knowledgeable practitioners in the Latvian construction industry.

The study programmes integrate competences in business, labour law, occupational health and safety, environmental and civil protection, as well as BIM, which are necessary for further education and development.

Study programmes are designed to meet the four main objectives of higher education:

- *personal development* is encouraged by communicative, general studies, learning and mastering continued education skills;
- *development of democratic society* is promoted through project teams to tackle construction problems;
- *challenges for science development* are addressed through qualification theses (diploma projects), course projects and applied research;
- *meeting labour market needs*, ensuring sustainable development is done periodically by revising and updating study courses in line with changes in the labour market. Annual meetings with employers and surveys take place, employers participate in the review and defence of qualification theses (diploma projects).

### **Tasks of the Study programme:**

To provide knowledge, to create and develop the body of skills, abilities and attitudes required for professional activity.

To provide graduates with the knowledge and skills to integrate successfully into the labour market and to assume and perform the responsibilities of their profession.

To ensure the acquisition of up-to-date general knowledge by involving guest lecturers, experts in the field who can share their practical experience.

To design the study process in such a way as to promote students' self-learning and involvement in continuing professional education and qualification development.

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

### **Strengths:**

1. An educational institution with a very long tradition, founded in 1872.
2. The credits awarded by the RBC are in line with the European Union Credit Transfer System and the Diploma Supplement meets the requirements of the European Commission. Recognition mark of the Diploma Supplement Label has been received.
3. Relevant and unique study programmes.
4. RBC is the 3rd most recommended college in Latvia by employers "TOP 2020" [www.likta.lv](http://www.likta.lv)
5. RBC graduates have successfully completed Master's studies abroad (Denmark, Sweden, France, Italy, Poland)
6. Active participation of the students in the process of study development and representation of their interests in the governing bodies of the College (College Council, Scholarship committee, Audit committee) and in the Latvian Association of Students are ensured.
7. Erasmus+ offers students and graduates an international study and internship experience.
8. College lecturers and staff have the opportunity to embark on teaching or experience exchange mobility to foreign universities.

9. Cooperation agreements with 36 foreign universities in 19 countries.
10. Attracting strong international faculty.
11. College staff and students participate in strategic partnership projects.
12. Modernised library, free access to RTU, LU and NLL repositories.
13. E-learning in the MOODLE platform.
14. RBC is the only educational institution in Latvia that trains stone, paper, metal, furniture and polychrome wood restorers at the professional higher education level.
15. Guest lecturers - professionals in the field - are involved in the study process.
16. Studies are offered to students from different regions of Latvia, as the College has a hostel.
17. Good location - Riga city centre.
18. The professional secondary school of the College promotes interest in studying at the RBC.

#### **Weaknesses:**

1. Limited financial and human resources.
2. Lack of competition for advertised academic staff positions.
3. Declining student achievement due to socio-economic conditions.
4. Relatively high number of exmatriculated students.

#### **Opportunities:**

1. Long-term labour market projections show an increasing demand for mid-level professionals in the sector.
2. Adult learning is growing in importance, based on the acquisition of new knowledge and skills to upgrade or change qualifications in line with labour market requirements.
3. There are opportunities to develop and commercialise applied research involving potential employers.
4. Participation in international strategic partnership projects with the possibility of joint study programmes.

#### **Threats:**

1. Decrease in the number of potential graduates due to demographic situation (low birth rate, emigration).
2. Free education opportunities abroad.
3. Insufficiently grounded and unclear education policy on the place of colleges in higher education.
4. Increasing competition between higher education institutions.
5. Low population incomes - falling demand for tuition fees.
6. Unable to make a living, students drop out when they start working.
7. Low percentage of public funding for higher education and research.

Every year there is a discussion of the weak and strong points, changes, development possibilities and plans of the study direction. In order to obtain a more transparent plan for the development and improvement of the study direction, a SWOT analysis was carried out, which allows evaluating the content and organization of the direction and revealing opportunities for its improvement.

As can be seen in the SWOT analysis, there are several threats from the external environment to the field of study, which negatively affect its competitiveness, for example, the country's demographic and economic situation, a large offer of competitors in Latvia and abroad, and others. But taking into account the opportunities of the external environment and the strengths of the study direction, there are several opportunities to increase the competitiveness of the college at the international level and promote sustainable development.



The strengths of the field of study prevail over the weak, and the weaknesses will be significantly reduced or eliminated by implementing the development plan of the field of study. The opportunities highlighted in the SWOT analysis are more than the possible threats, thus the influence of the external environment can be evaluated positively. The opportunities mentioned in the SWOT analysis will be implemented by developing adult education, establishing an adult education center in the architecture and construction industry, as well as continuing participation in international Erasmus+ strategic partnership projects.

It will be possible to eliminate weaknesses and threats by continuing to create an international study environment (guest lecturers from foreign universities, international projects, incoming foreign students, etc.), as a result of which those interested in the direction of study will choose to study at Riga Building College.

Weaknesses will be eliminated, threats will be reduced and opportunities will be used by implementing the development plan of the study area.

Taking into account the strategic goals of the college and the SWOT analysis, a study direction development plan has been drawn up (Appendix: 2.1.2 Development plan for the field of study.pdf).

When developing the development plan of the study area, strategic goals were set, in accordance with [The Development and Investment Strategy of Riga Building College for 2021 - 2027](#).

Four areas are identified as the most important in the study direction development plan:

- Improving the capacity and quality of the study process;
- Promotion of cooperation with employers;
- Continuing cooperation with related higher education institutions in Latvia and abroad.

Strengthening of infrastructure, material and technical base and financial capacity.

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

The activities of the departments involved in the implementation of the study field "Architecture and Construction" are coordinated by *the Departments of Architecture and Construction*.

*Directors of study programmes* are responsible for ensuring that the content of study programmes is provided, updating of course descriptions, teaching the relevant courses and preparing self-assessments for accreditation. To identify and collect information from employers on the quality of study programmes and the need for new study programmes. Directors of the study programme are also responsible for managing the methodological work of their study programme.

The following units are involved in the study process:

*Study Department* organises the record-keeping of the study process, is responsible for keeping track of students' achievements and final documents. Provides internal information services to students, prepares orders, draws up lecture timetables and makes necessary changes, identifies and collects information from employers on the quality of the study programme and the need for

new study programmes, prepares diplomas for issue and monitors the circulation of diplomas.

Academic staff performs teaching, methodological and research work, lectures, conducts seminars and practical classes, accepts examinations, reports, independent works (including control works, etc.), participates in student work reviews, organises consultations, conducts and reviews qualification theses (diploma projects) performs other duties related to the organisation of teaching work.

Lecturers involved in the field of study have the necessary skills to transfer their knowledge and experience to students and to receive feedback on their work. All lecturers are provided with the opportunity to improve their knowledge, participate in advanced training courses, study for a Doctoral degree, develop scientific work and, as part of exchange programmes, engage in internships or lecture abroad and attend professional international exhibitions.

International Relations Department organises the engagement of students and lecturers in various international projects (Erasmus+, Nord\_Land: new insights, etc.), concludes cooperation agreements with foreign universities for students' studies and internships at partner universities and international companies, organises lecturers' lectures at foreign universities and experience exchange trips of the College staff to companies, universities and international professional exhibitions of building materials and construction products.

Management Department, which deals with material and technical support.

Human Resource Department, which handles employment and company contracts; keeps employee records; familiarises employees with occupational health and safety requirements; organises the secondment of employees for further training, etc.

Internship Department cooperates with employers in organising student internships at construction sites and architects' offices, provides internship placements, prepares and compiles students' internship documentation.

Diploma Design Office organises and monitors the diploma design process and the defence procedure.

In the Methodology Room students have the possibility to copy, print, bind, scan materials, work on computers in the presence of a consultant from the Methodological room. Large-format colour prints of course projects, diploma projects and posters (A4-A0) are also available

The practical implementation of the programme is supported by the College staff capable of ensuring the functioning of the infrastructure: a computer systems administrator, library staff, technical staff, workshop and laboratory managers and laboratory technicians.

The marketing of the field of study is the responsibility of and the public information function is performed by the Public Relations Officer.

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

Application for studies at the College is governed by the "[Admission Rules and Matriculation Procedure at Riga Building College for the Current Academic Year](#)".

The College website provides information about the College activities, study programmes, admission criteria and qualifications. The qualifications are clearly specified and refer to the appropriate framework of qualifications for short cycle professional higher education and are in line with the PQL and the LQF.

Application forms:

- upon submitting documents electronically via the College website: <https://www.rck.lv/par-mums/pieteikties-studijam/>
- Upon sending documents by email **studenti@rck.lv** ;
- upon submitting documents in person

Entry requirements: secondary education.

Riga Building College also recognises non-formal education, which is regulated by the Rules: "[Recognition of competences and prior learning acquired outside formal education or through professional experience](#)". The Rules define the learning outcomes achieved outside formal education, prior learning or professional experience at the RBC, assess and determine their relevance to the study programmes pursued at the RBC; if they meet the relevant requirements of the study programmes pursued at the RBC, recognise them and award credits accordingly.

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

The system of evaluation of students' knowledge, skills and abilities complies with the requirements of the Cabinet of Ministers of the Republic of Latvia (Cabinet Regulations No 141 "[Regulations on the State Standard of First Level Professional Higher Education](#)" (20.03.2001)

The organisation of studies and the procedure for conducting and marking examinations at the RBC are laid down in the "[Regulations of the Studies of Riga Building College](#)".

Study programmes are designed to encourage active participation of the students in the learning process. This approach is reflected in the methods used to assess students. Assessors (docents) are familiar with testing and examination methods and receive support to develop their skills in this area. The assessment criteria and methods for grading are made public. Assessment should show the extent to which the student has achieved the expected learning outcomes. Wherever possible, the assessment shall be carried out by more than one examiner. Assessment follows approved procedures, is applied equally to all students and is consistent. Mutual respect between student and lecturer is promoted and appropriate procedures are in place for student appeals. It analyses whether the learning outcomes and credits for the course are appropriately formulated. Students' views are sought, and changes are made to the wording of learning outcomes where there is a discrepancy.

Study programmes and Study course programmes articulate the expected learning outcomes and familiarise students with the teaching, learning and assessment procedures used.

Students are provided with consultations by lecturers, whereof they are informed in the e-learning environment - Moodle, and this information is also posted on the information bulletin board. Both individual and group consultations are organised, both face-to-face and via online platforms: "ZOOM", "MS Teams", "Google Meet", etc. Students have access to lecturers' phones and/or emails, group emails, WhatsApp groups and external email: "Dropbox". Both Google Docs and Dropbox are used for sharing documents. In order to achieve the planned results in the study process, students are familiarised with the learning aims, objectives and expected results, as well as the assessment criteria, when they start their studies at the College and when they start studying each individual study course. Students can see their grades in Moodle. Students' achievements are regularly analysed at the RBC Council meeting, departmental meetings, common meetings of the docents, Student Council meetings and management meetings. The effectiveness of student assessment procedures is established on regular basis.

Students' knowledge is assessed in all types of classes, project work, coursework, internships, lectures, exams and qualification works (diploma projects). The defence of the course projects takes place in public in the presence of the respective lecturers and course members.

Employers are involved in the defence, review and evaluation of the qualification work (diploma project and applied research): Representatives of the Union of Architects, the Union of Civil Engineers, construction companies and architects' offices, university staff of the relevant field of study.

The Internal Regulations "[Mutual Obligations and Rights of Riga Building College Lecturers and Students in the Study Process](#)" define the criteria and binding procedures for the evaluation of students' achievements.

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

Much attention is paid to the development of honesty, the creative use of knowledge, the acquisition of scientific methods of inquiry and independent problem-solving.

In 2019, the RBC signed an agreement with the University of Latvia to join a unified computer-based plagiarism control system, which brings together 17 universities and two colleges. The system is a set of technical, methodological and organisational elements for checking the work of university students against a set of student work and other documents already accumulated in universities. A representative of the University of Latvia, the coordinator of this system, has given a lecture to an audience of College students and lecturers on the topic "Academic (Dis-)Honesty". Plagiarism control and entry of works into the system is carried out by the librarian in charge. She can log in to the system at any time via a web browser and upload PDFs of the College students' work for examination. It is possible to mark which groups of topics the uploaded works from other universities can be compared with. Access to the system is also granted to the Computer Network Administrator and the Deputy Director for Studies and Research of the College. The qualification works of the College students (diploma projects and applied research) are entered into the plagiarism control system. A work is considered plagiarised if even one form of plagiarism is detected and proven. The 2019 final papers have already been checked in this joint computer-based plagiarism control system.

The College has included the topic of intellectual property rights and protection in the courses "Legislation" and "Fundamentals of Law".

The obligation to provide references is also explained in the methodological regulations on the formatting of qualification works (diploma projects).

Academic integrity is addressed in two documents: "[Code of Ethics of Riga Building College](#)", and "[Regulations of Studies of Riga Building College](#)".

## **2.2. Efficiency of the Internal Quality Assurance System**

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

The following mechanisms ensure the implementation of the quality management system:

- student surveys (questionnaires) and analysis;
- staff questionnaires and analysis;
- internal quality audits;
- annual self-assessment of study programmes;
- the work of the Quality Management Group;
- graduate surveys;
- Employers' assessment;
- assessment of external accreditations.

According to the results of the questionnaires, necessary adjustments are made in the content of study courses and in the activities of academic staff.

Students participate in surveys, discussions and evaluate the study process, lecturers, administration and relationships.

Student surveys are one of the forms of cooperation between the RBC administration and students, in accordance with the internal regulations "[Procedure for conducting student surveys at Riga Building College to evaluate the study process](#)". Student surveys are held once a year, at the end of each study course. The surveys provide feedback on the quality of the courses, students' attitudes and satisfaction.

The questionnaire is posted in Moodle and consists of 18 questions, students' suggestions and comments on the course content, teaching methods and organisation, examination forms, study materials and other aspects.

The student feedback is presented to each lecturer by the study department and the head of the department, and together they analyse their performance evaluation to help improve the quality of their work.

Alongside the student surveys, regular student group meetings are organised with the College Council. They introduce students to the future development of the study process, new study courses and academic staff. The information gathered at the meetings is compiled and analysed.

Adjustments are made to both the content and the delivery of studies, based on both questionnaires and student group meetings. The College management is open and available to students for any questions related to the study process.

The internal evaluation of the college study process allows to evaluate the achieved goals and results in essence.

The main activities that are carried out to achieve the goals and results of the study programs are:

- attracting guest lecturers - practitioners from the construction industry;
- involvement of foreign guest lecturers in the study process and in the implementation of international cooperation projects (long-term cooperation with VIA University Denmark and Balthasar Neuman technikum in Germany);
- an audit of study program documents was carried out and a plan was developed for changing the content of study courses;
- improving the content of study courses according to modern theoretical principles and development trends of the construction industry;
- regular review and verification of study programs according to current legislative requirements, as well as adjustment to current labor market requirements, involving employers in the evaluation of study content;
- use of ICT technologies in the study process;
- modernization of the study process and renewal of all kinds of resources.

Riga Building College is the first college in Latvia, the European Education and Culture Executive Agency (EACEA) has awarded the prestigious Certificate of Appreciation to the Diploma Supplement. This shows that RCK successfully organizes work and fits into the higher education space of the European Union, fulfills EU requirements.

Since 2013, the Diploma Supplement Label has been placed in the RCK Diploma supplements.

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

The internal audit of the study programme is obtained by analysing the relevance of the acquired knowledge, skills and professional attitudes to the requirements of the labour market in the architecture and construction sector. Study programmes and study course programmes are regularly reviewed and discussed at departmental meetings, where decisions are taken on measures to improve and enhance the study process.

Quality assurance of the study process:

1. Updating and supplementing of study courses - performed by docents once a year.
2. Checking students' achievement, academic debt control - four times a year.
3. Self-evaluation of the study programme - once a year, prepared and presented.
4. Indicators characterizing the main activity process - analysis is performed once a year. A summary of process indicators is provided in the annex.

by the Director of Study programmes and approved at a meeting of the Council, after which it shall be published on the College website.

The development of the new study programme is in line with the recommendations for the European Higher Education Area, including the three priorities of the Europe 2020 strategy, which are defined as requirements for education: smart, sustainable and inclusive growth - to produce highly qualified professionals who meet international requirements; to develop cutting-edge research; and to integrate into international research projects.

During the pilot accreditation of the field of study "Architecture and Construction" of Riga Building College within the accreditation process of the ESF project "Support for the performance of requirements applied to EQAR Agency" in 2017, the international evaluation commission drew attention to the fact that the study programme "Architecture" of RBC (according to the standard for the profession of Architectural assistant, 2161 02, developed by RBC in 2010) exceeds requirement of the Professional Qualification Level 4 in content and scope, and suggested to change the name of the programme to "Architectural Technology" and also made recommendations for changes in the content of the programme, inter alia, reducing the number of study courses and including Building Information Modelling (BIM) processes, which would result in the programme fully meeting the requirements of modern construction.

Taking into account the opinion and recommendations of the Expert Committee, the qualification "Architectural assistant" was rightly removed from the Construction Sector Qualifications Framework and replaced by the qualification "Architectural Technologist".

Riga Building College used its own revenues to set up a working group to develop a professional standard "Architectural Technologist", inviting Elīna Rožulapa, Head of the Certification Centre of the Latvian Association of Architects, and the leading Latvian architects' offices to participate as experts: SIA "Vizuālās modelēšanas studija", SIA "MARK arhitekti", SIA "ARHIS ARHITEKTI" architects Uldis Balodis, Aleksejs Birjukovs, Raimonds Saulītis, Head of the RBC Department Inese Reitāle and Chairman of the Latvian Construction Industry Trade Union Ieva Gretere. The Professional standard was developed and approved at the meeting of the Tripartite Sub-Council for Vocational Training and Employment (PINTSA) on 14 August 2019, Minutes No 5.

During the reporting period, a new study programme "Architectural Technology" (qualification - Architectural Technologist) 180 ECTS (120 CP) has been developed and licensed within the study field, which replaces the previous study programme "Architecture", where the qualification of Architectural Assistant was obtained.

The principles for designing a new study programme are based on: The rationale and relevance of the programme to the field of study and the College strategy; The governance of the study programme; The resources and provision of the programme; The content and delivery mechanism of the study programme; The employment prospects of graduates; The compliance of the study programme with the requirements of regulatory enactments.

There is no study programme in Latvia to train mid-level professionals in architectural technology. This programme is unique, the first and only short cycle professional higher education study programme in Latvia.

The shortage of architectural technologists has sparked a lot of discussion among staff of architects' offices.

Certified architects usually want to work on concept development and project management, but what is missing is an architectural technologist who professionally develops designs, project details, specifications and is an essential support to the architect in all other necessary matters.

The current issues of the programme development and implementation have been discussed with the Latvian Association of Builders, the Latvian Union of Architects, the Construction Industry Expert Council, the Construction Industry Digitisation Association.

The first step in the development of a study programme included the following set of information: the title of the study programme and professional qualification, the corresponding field of study; the scope, duration, mode and form of the programme; the content and structure of the programme; the objectives and learning outcomes of the programme. The objectives and learning outcomes of the study programme are to provide a set of knowledge, skills and competences in accordance with the European Qualifications Framework (EQF) level descriptions of knowledge, skills and competences. The structure and content of the programme is designed to align the outcomes of the courses with the outcomes of the programme in line with the programme objectives; prior learning requirements; employers involved in the development of the programme; comparisons and opportunities for collaboration with other higher education institutions in Latvia and the EU/world; graduate employability; infrastructure provision; provision of academic staff. A working group was set up to develop the concept of the study programme, comprised of academic and administrative staff, employers and representatives of professional organisations.

After the approval of the study programme concept, on 18.09.2019 the College Council approved the working group, the head of the working group and the responsible person for the development of the study programme "Architectural Technology" in accordance with the requirements of the existing normative acts, including the Cabinet Regulations on Licensing of Study Programmes and the EQF. The description of the study programme "Architectural Technology" was approved by the RBC Council on 15.01.2020., Minutes No 73 to be submitted to the AIC (AIKA) for licensing.

The study programme development process involved curriculum development staff, i.e. experts and academic staff for curriculum development, internship, qualification work (diploma project), etc. The working group also included the heads of the library, the Study and the Internship departments, the International Coordinator and the Public Relations Officer.

The working group for the development of the study programme included experts and consultants from other universities and employers. Academic staff are involved in the development of the study programme for each course of study.

Related study programmes in Canada, Denmark, Estonia, the Netherlands and Bulgaria were assessed to learn about the implementation, content and facilities of related study programmes. The introduction of the study programme at Riga Building College is motivated by the situation of labour market demand and the country's strategic development plans in the areas of economy and education support.

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

Students have the opportunity to express themselves freely. Students can submit their suggestions



and complaints electronically in the e-environment (email) or by posting them at the in a mailbox placed at the Study Department. Formal, written submissions are responded to in writing, in accordance with the requirements of the laws and regulations. Also, through an anonymous student survey, students are given the opportunity to express their opinions, make suggestions for improving the organisation of the study process, and evaluate lecturers. Students can contact the College lawyer either by application or by appointment. Student complaints and proposals are examined by the Study Department, the relevant department and the group supervisor.

<b>Academic year</b>	<b>Number of complaints lodged</b>
2017/2018	2
2018/2019	1
2019/2020	1
2020/2021	4

The number of complaints increased with the launch of distance learning, but this is due to the initial uptake of new digital tools by both students and lecturers.

The procedure for submitting and reviewing complaints and appeals is stipulated in the Regulations "[Procedure for Submitting and Reviewing Proposals and Complaints of Riga Building College Students](#)", which was updated on October 22, 2014, and is available on the College website.

Regular assessment and examination of student complaints, proposals and suggestions show the desired development paths of the college (students, teaching staff, employees, material, technical and methodological resources), based on internal reserves and needs.

In case of disagreement and conflict a student has the right, to address suggestions, claims and complaints in the following order:

1. initially with the curator of the group;
2. if the issue has not been resolved, the interested person has the right to contact the head of the specific structural unit (director of the study program and/or head of the study department);
3. if the issue has not been resolved or is not considered at the level of heads of structural units, then the resolution of the issue is possible with the Deputy Director of the College for Studies and Research and/or the Director.

In addition to the procedures provided in regulatory documents, students are invited to contact any representative of the College's academic, administrative or technical staff to provide feedback on the quality of studies and to seek the most suitable solutions. College staff also reach out to students by organizing meetings with them to find out what improvements students want. Once a year, the college council meets with the student self-government.

The decision on the results of the examination of the complaint or proposal is made in writing and notified to the complainant within a month from the date of receipt of the application. The decision is sent to the e-mail or postal address specified in the application. For example, a student submits a complaint about the actions of a teaching member to the director of the study program. In this case, the program director negotiates with the specific faculty member. After the discussions, the program director informs (in writing or verbally) the student about the conversation and asks him to report them immediately in case of a similar situation.

A deadline is set for the execution of the decision and its execution is monitored.

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

For the improvement of the field of study, the main statistical data used are the number of students, i.e. enrolled students, exmatriculated students, analysing separately each exmatriculation item, e.g. academic debts, tuition fee debt, non-completion of the study programme, at own will, etc.

Compliance of the study programme with Part 1 of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

Surveys of students, employers, graduates and academic staff are organized:

- Student surveys: organisation of the study process, living conditions, administration activities, evaluation of lecturers.
- Employer surveys - assessment of the knowledge and skills acquired by students.

Employers' feedback is available at the RBC.

- Graduate surveys - application of education, job opportunities in specialisation.
- Academic staff surveys - study process, administration work.

The activities of the Student Self-Government are based on the "[Regulations of the Student Self-Government of Riga Building College](#)".

Staff meetings are convened twice a year by the Director, while management meetings are held weekly (Mondays).

Employer surveys are carried out once a year for a particular study programme. The results of the Employer survey and feedback are used to improve and add to the study programme, make changes to the content of individual study courses and for the management of internships.

An integral part of quality assurance is the annual self-evaluation of the field of study/programme, prepared by the Deputy Director for Studies and Research and the head of the department, in cooperation with the self-evaluation committee of the field of study/programme.

When collecting, storing and processing data of natural persons, Riga Building College shall comply with the following data protection principles:

- collect and aggregate personal data only for specific, explicit and legitimate purposes and process them only in the manner and to the extent provided for by the laws and regulations;
- collect, process and aggregate only the personal data that are necessary for specific purposes or to meet requirements under laws and regulations;
- personal data allowing identification of the data subject shall be retained for no longer than necessary for the purposes for which the personal data were collected and processed;
- after the expiry of the period for collecting or storing the personal data, the RBC shall destroy the data media, securing them against any possibility of data leakage;

- take appropriate technical and organisational measures to ensure protection of the personal data against unauthorised or unlawful processing, accidental loss, damage and destruction;
- abstain from processing personal data without a specific purpose or transfer them to other organisations, institutions, individuals or foreign countries without secure, adequate protection and a lawful basis for processing.

The RBC processes personal data in compliance with confidentiality requirements and ensuring the security of personal data held by the university. The RBC uses various security measures to prevent unauthorised access to, disclosure of, or other inappropriate processing of personal data. Employees who have access to personal data are trained to handle it in accordance with the requirements set out in the regulatory enactments (computer network administrator Uldis Timpers has completed the Data Protection Training Course).

The Personal Data Protection Officer, appointed by the Director's order, oversees the protection and processing of personal data at the RBC and is responsible for informing and advising staff and students on data protection and for ensuring compliance with the principles of personal data protection. The College has Internal Rules in place from 2020: "Privacy Policy of the Riga Building College" and Internal Rules "[Regulations on Protection of Records Data of Riga Building College Students](#)".

**2.2.5. Specify the websites (e.g., the homepage) on which the information on the study field and the relevant study programmes is published (in all languages in which the study programmes are implemented) by indicating the persons responsible for the compliance of the information available on the website with the information published in the official registers (State Education Information System (VIIS), E-platform).**

The person responsible for entering information and compliance with the information in the State Education Information System (VIIS) is the Head of the Study Department Gunta Rudzīte. The directors of the respective study programmes and the public relations specialist Vineta Vaska are responsible for [the information about the study programmes implemented in the field of study posted on the website](#), the ICT specialist Maksims Kazakovs is responsible for entering the information into the E-platform, the technical input of information into [the College website](#) is carried out by ICT specialist Valters Ločmelis. Svetlana Razuvaeva, HR Specialist, is responsible for updating the information in the Register of Academic Staff.

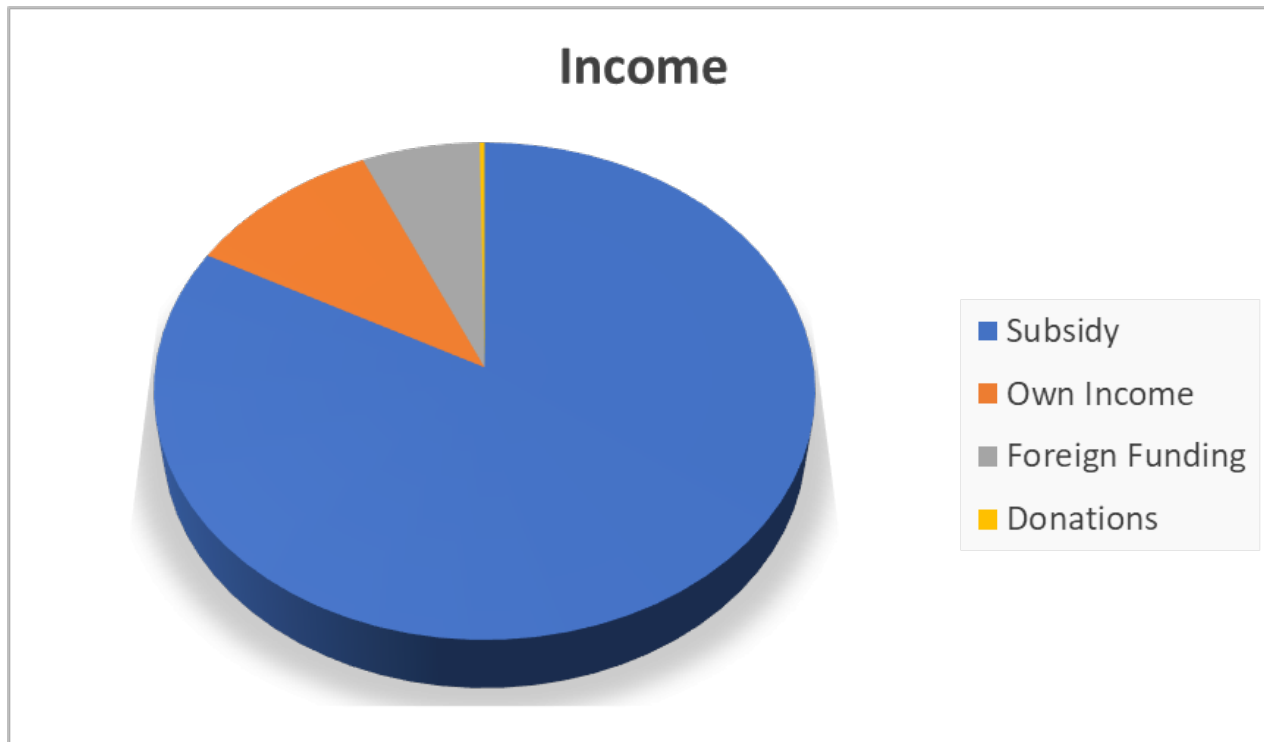
## 2.3. Resources and Provision of the Study Field

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

The RBC uses both the state budget subsidy and its own income to ensure the study process.

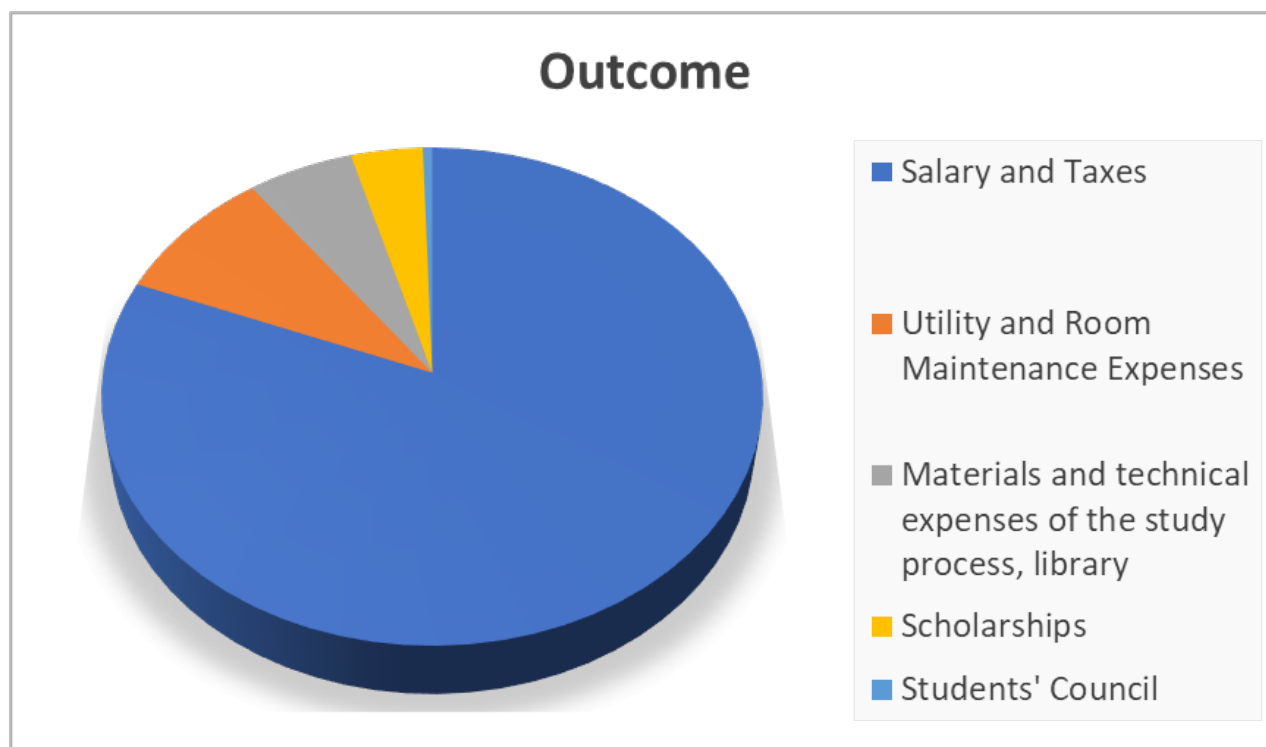
Revenue is made up of:

- State budget subsidy - 82.87%
- Own revenue from tuition fee - 10.54%
- Foreign financial assistance (EU structural funds, Erasmus+) - 6.33%
- Other services (Hostel, room rental, donations, etc.) - 0.26%



The main expenditure items are:

- Staff remuneration (corresponding to Cabinet of Ministers Regulation No 445 of 05.07.2016 "Regulations Regarding Remuneration of Teachers") and taxes - 81.06%
- Maintenance and utilities of premises - 8.88%
- Material and technical expenses for the study process, library - 5.70%
- Scholarships -3.86%
- Financial resources for Student Council, in accordance with Section 53 of the Law on Higher Education, amounting to one two-hundredth (0.5%) of the annual budget of the College.



The main source of funding for the study programmes of the College is the state budget subsidy.

An analysis of the funding and available resources is carried out annually, identifying current needs and planning the long-term investment required. To achieve this, every year the College management meets with lecturers and directors of study programmes to discuss the results achieved during the previous academic year and to prioritise the needs of the study areas for the next phase.

The implementation of international projects and the availability of funds not only contribute to the quality of processes, the improvement of study programme content and the qualification of the College staff, but also have an impact on the financial stability of the College and ensure additional financial availability for activities.

The tuition fee and other fees related to the study process are set out in the Cabinet of Ministers Regulation No. 171 of 18.03.2021 "[Price List of Fee Services of Colleges Subordinated to the Ministry of Education and Science](#)" (in Latvian only).

A Study Contract is concluded with each student for budget-funded education or on a fee basis, with the student being charged tuition fees for the entire period of study. The base cost per student is EUR 1630.11 The social security cost per study place is EUR 265.50 The tuition fee for all study programmes is EUR 1600.00 per year.

The use of financial resources is regularly monitored. "*Procedures for the keeping and organisation of accounting records at Riga Building College*" was approved on 1 December 2010, which is updated annually.

Accounting controls involve methods and techniques for controlling:

- preservation of the College assets;
- recording economic transactions in accordance with the requirements of laws and regulations and internal rules of procedure.

All buildings and structures used by the RBC are the property of the MoES.

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

Specialists of the study programmes "Architectural Technology", "Construction" and "Engineering Systems" must be familiar with the use of different building materials, both for new and historic buildings, methods of determining material properties, interpretation of the data obtained, principles of material compatibility and application in design and supervision.

*On 23 August 2017 Riga Building College signed a contract with the Central Finance and Contracting Agency for ERDF project "Modernisation of the laboratory for testing the properties of building materials" (project No 8.1.4.0/17/I/006). Project implementation period - 24 months, i.e. until 31 July 2019.*

The aim of the project is to improve the study environment of STEM programmes at Riga Building College (RBC) - to modernise the building materials laboratory by equipping it with modern equipment for testing of building materials, inventory and computer hardware suitable for effective training of students in working with specific computer programmes used in construction - BIM technologies.

Total project costs - EUR 330 206 (in accordance with the Cabinet of Ministers No 533 of 09.08.2016, Article No.16.8), including ERDF funding - 85% or EUR 280 675.10 and Latvian state budget funding - 15% or EUR 49 530.90.

Major equipment purchased within the framework of the project:

- computer hardware - 13 processors and computers for BIM technology;
- programmable mortar mixer;
- concrete mixer;
- water baths for holding concrete specimens;
- 2 climate control chambers for testing materials under different cycling conditions;
- building material saw;
- 2 drying cabinets;
- vibrating table for compacting concrete and mortar into moulds;
- concrete and mortar forms in different sizes;
- various mortar and concrete consistency testing equipment;
- concrete air content gauge;
- a gauge for measuring the thickness of the reinforced concrete protective layer and the diameter of the rebar;
- Sieve kits for granulometry of minerals and a sieve shaker;
- measuring instruments for determining the bulk density of mineral materials;
- equipment for determining the properties of bituminised mixtures - Engler viscometer, penetrometer, ring and ball, flash point determining device;
- equipment for determining the properties of metal reinforcement - metal tensile testing equipment;
- metal hardness tester - Brinell device;
- 2 stereo microscopes with documentation capabilities, one of which is portable;
- stone cleaning equipment with water and steam;

- *weighing scales in various ranges, as well as scales for hydrostatic weighing;*
- *for testing the mechanical properties of presses - compressive and flexural strength testing presses in different ranges - 15....300 KN and up to 2000 KN;*
- *non-destructive strength measuring equipment - Schmidt hammers, for materials of different strengths;*
- *ultrasonic wave concrete penetration velocity detection equipment;*
- *equipment for determining the start and end of binding of binders (Vicat apparatus);*
- *thermograph - a thermal camera for measuring heat distributions and losses;*
- *laser range finders;*
- *digital thermometers and hygrometers;*
- *Beldorni hammer;*
- *Proctor set for soil compaction;*
- *samples of building materials.*

As a result, from January 2019, the learning process for students of construction, architectural technology and engineering systems has been enhanced with laboratory work and modern equipment in beautiful, bright premises renovated at the College's own expense.

RBC continues to modernise the laboratory equipment for STEM programme "Engineering Systems", teaching stands and study environment in line with modern requirements. The project includes the purchase of a welding machine for large-size polyethylene pipes.

In 2016, the RBC purchased a heating system balancing stand with 10 laboratory workstations for EUR 3900, using state grants and its own revenue.

A loan agreement has been signed with the National Centre for Education for a simulation device - Building Air Handling, Distribution, Control Stand - to be used free of charge.

The laboratory is equipped with an aerodynamics test stand, which includes maintenance, adjustment and measurement of ventilation systems. Thermal loss measurements with an infrared thermography camera and building density testing (air permeability) can be determined in the laboratory using a "Blower door" machine with simulator.

Geodesy office equipment:

- *optical theodolite;*
- *digital theodolite;*
- *rangefinder (2);*
- *electronic theodolite (3);*
- *data collector;*
- *rotating laser;*
- *laser leveller;*
- *laser level;*
- *optical spirit level (2);*
- *planimeter;*
- *curvimeter;*
- *codoscope;*
- *laser level;*
- *line laser;*
- *inclinometer.*

The following material and technical facilities are available for the provision of study programmes at the RBC:

- *projectors and screens;*
- *special interactive whiteboards;*
- *copiers;*
- *printers;*
- *scanners;*
- *document binding and laminating machines;*
- *foam cutter for making models;*
- *acoustic systems and sound amplifiers, video and still cameras.*

Four classrooms equipped with ICT for study work, lectures, presentations

Computer	Pentium i3, 8Gb RAM, 500Gb SSD	110 pcs.
Monitor	21" LCD monitors	110 pcs.
Video projector	Epson/Benq/Infocys/Sony	35 pcs.

Item	Total	Older than 5 years
Computer kits	157	47
Interactive whiteboards	4	3
Interactive displays	4	
Laptops	13	5
Operating system Windows 7	40	
Operating system Windows 10	75	
Operating system Windows Server 2016	1	
Office Professional 2013	60	
Office Professional 2016	3	
Office Professional 2019	80	
Tildes Birojs 2019	10	
Microsoft Project 2019	15	
AutoCAD 2020	80	
Revit 2020	80	
Photoshop cc2019	15	
ESET Nod 32 antivirus	60	



Microsoft Visio	30	
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The college regularly improves the quality of material resources and increases the amount of available resources depending on development priorities, which in turn depend on education and labor market requirements.

Students and teaching staff have the right to use the College's material and technical base, inventory, equipment and teaching aids for the purposes and tasks for which they are intended. Students and employees can use the equipment offered by the college also outside the college premises for several days (digital range finder, thermograph, etc.) by signing a contract with the person responsible for the equipment.

Library resources are available to students, faculty and other interested parties in the college. In almost all study courses, literature is available for use at home as well, with an increasing proportion of literature in English. Copying, printing, scanning, binding and laminating services are available in the library and methodical office. College resources are available to both students and faculty even after classes are over. Students gladly take advantage of the fact that the college is also available late at night, or sometimes when developing a final work (qualification work) students stay in the college premises at night as well, permission is obtained from the director of the relevant study program.

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

Riga Building College Library is a structural unit of RBC, registered in the Register of Libraries on 6 September 2004 under registration number BLB1703.

The total area of the library is 300 m<sup>2</sup> with 50 workplaces (reading room, subscription, 2 storage rooms with free access to the collection) 5 computers for users, scanner, multifunctional machine with the possibility of printing, copying, scanning (Cabinet Regulation No 171 of 18 March 2021 "Paid services provided by the RBC").

The library was accredited on 16 May 2017 (re-accredited), in 2012 - for the first time, and has been granted the status of a library of local significance. The library's task is to provide information resources for the study process. The library has joined the national unified library information system and performs library processes within the automated information system SKOLU ALISE.

RFID security system has been installed in the library.

Library opening hours is adjusted to the demand:

Monday, Wednesday 9:00 -17:00

Tuesday, Thursday 9:00 - 18:30

Friday 9:00 -16:00

Information about library resources, the latest books, opening hours and library rules is available on [the RBC website](#).

RBC Library electronic catalogue available on [public web site biblioteka.lv](#)

The library's collection has an average of 20 000 items (EUR 80635,-), including books, periodicals (about 500 items in architecture and design journals) and student Qualification work (Diploma project) (unpublished materials).

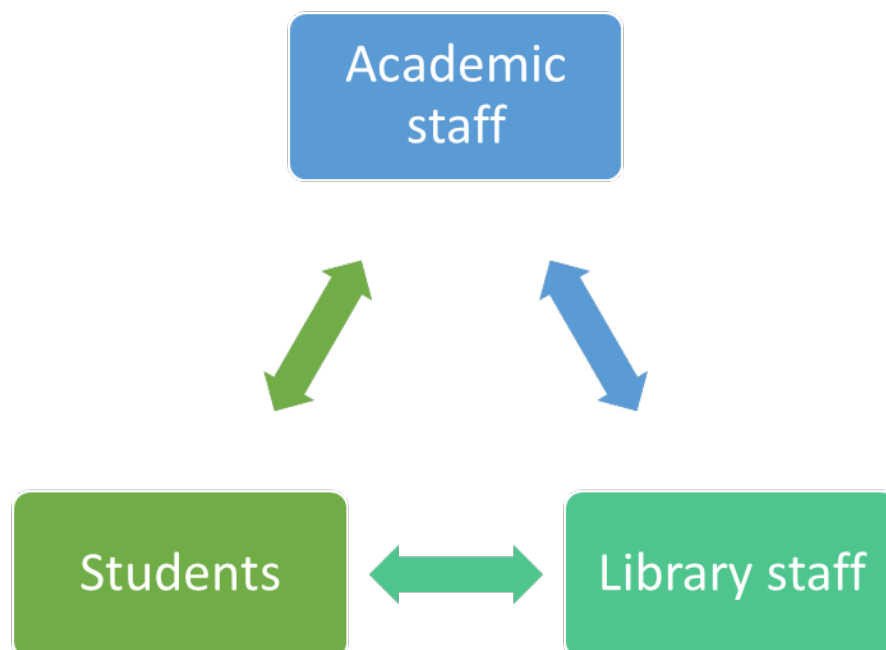
The library has a collection of "Construction and architecture magazines published in Latvia since 1997".

The library offers literature in English, German, Russian, Latvian.

Every year, the RBC library statistics are submitted to the Latvian Culture Map.

Cultural data [www.kulturasdati.lv](#) (in Latvian)

The library's collection is enriched by researching the print and electronic resources needed for the study programmes, by cooperation between the library and the faculty staff, and by deciding on the purchase of new titles. Each year, funding is planned for the purchase of books, and information on construction, architecture and restoration is regularly researched:



[www.lgramata.lv](#),

[www.jr.lv](#)

[www.kriso.lv](#),

Offer of the National Library of Latvia:

[www.primo.lv](#)

[https://enciklopedija.lv](#)

<https://lnb.lv/lv/nozaru-celvedis/arhit>

<https://lnb.lv/lv/digitala-biblioteka>

<https://lnb.lv/lv/latvijas-jaunakas-gramatas>

The national bibliographic analytical database "Architecture and Construction" created by the RTU Library is useful for students for various research purposes.

Library staff can provide professional assistance in searching the resources of the National Library of Latvia, as they have attended courses and seminars organised by the National Library.

A seminar on "Information Searching in the NLL Resources" was organised at the College with the participation of a consultant from the National Library of Latvia. It sparked interest in the students.

The College does not subscribe to large databases, which require large funds, but makes maximum use of the resources offered by the National Library of Latvia, RTU, and the RBC library collection, which is regularly updated with current publications, following the various types of offers and opportunities.

Publishing house representatives provide information on publications (architecture, construction) to the library's e-mail, and advertising offers can be found in special magazines.

Information is sought from various internet resources, e.g. <https://openresearchlibrary.org/home>  
<https://taylorandfrancis.com>

The library's collection is also built up by researching the various databases.

A contract has been signed with the National Library of Latvia for the use of the collective catalogue of eight libraries (Interlibrary Loan, SBA) and the possibility of ordering books for temporary use. The RBC library, in cooperation with the lecturers, has ordered books in this way from both the NLL and RTU libraries.

The library holds students' applied research in paper format:

<b>Study programme</b>	<b>Qualification work (Diploma project)</b>	<b>Applied research</b>	<b>Restoration passports</b>	<b>Year</b>
Restoration	14	214	84	2003-2021
Architecture	13	64		2018-2019
Building science	83			2018-2019
Engineering systems	28			2018-2019

The RBC Qualification work (Diploma project) database is planned to be set up.

RSC subscribes to the database [www.letonika.lv](http://www.letonika.lv)

RBC has concluded a contract for online subscription to the Latvian Standards Collection [www.lvs.lv](http://www.lvs.lv) available chapters 01,91,93

- 01 general principles, terminology, standardisation, drafting, documentation
- 92 building materials and construction

- 93 civil engineering

If necessary, an electronic version of the standard licences is purchased (64 items purchased).

In 2021, loan agreements were concluded with the VISC for access rights to digital learning resources:

- 10 copies of "Woodworking technologies"
- 3 copies of "Roads and Civil Engineering"

Information posted on the website, sent to teachers' e-mails.

The library has an independent exhibition "Riga Building College during the Turns of Eras", which is regularly updated with publications about the College, student and lecturer achievements. The material is being compiled and will be available electronically at the College website under "Publicity".

The library staff regularly follows the latest developments in the field, attends courses, seminars, cooperates with Latvian and foreign libraries, gaining new experience that helps in their daily work.

Library staff visited the libraries of partner universities abroad as part of the ERASMUS+ programme:

In 2016 - POLIS University Library of Tirana (Albania)

In 2018 - University Library Pardubice (Czech Republic)

In 2018 - University Library of La Coruna (Spain)

In 2019 - Balkan International University Library (Northern Macedonia)

In 2019 - University Library of Murcia (Spain)

In 2021 - Kaunas University of Applied Sciences Library (Lithuania)

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

Riga Building College uses the Moodle platform in its learning process. Lecture materials, methodological materials, course programmes, assignments for independent work, surveys and tests are posted here. Lecturers post assignments on Moodle for students to complete and submit. Students can see their grades in Moodle.

Microsoft Office 365 capabilities are also used. All lecturers and students have Office 365 accounts with personalised emails. Office 365 Outlook email is used for communication, Microsoft Teams platform for online lectures, OneDrive cloud storage for files, Forms for surveys. All the other Office 365 features are also widely used, such as Word, Excel, etc.

The College has a common authorization with Moodle and Office 365. Therefore, when logging in to Moodle, we also log in to Office 365.

The epidemiological emergency has facilitated the use of various online platforms for distance learning.

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

Selection and recruitment of lecturers of the College is carried out in accordance with the "[Regulations on Academic and Administrative Positions of Riga Building College](#)".

On the basis of these Regulations, the number of academic staff posts in the College shall be determined in order to meet the requirements of the Law on Higher Education Institutions. Vacant academic posts are advertised in an open competition by publishing a notice in the newspaper Latvijas Vēstnesis and on the College website.

A person with a Doctorate or Master's degree may be elected to academic posts.

Taking into account the need to acquire practical skills and knowledge in the profile subjects of professional study programmes, the position of docent, lecturer and assistant may be held by a person with higher education without a scientific degree, provided that he/she has the relevant practical work experience for the relevant subject:

The main tasks of the docent are:

carrying out research, projects, organisational and social work, giving lectures, conducting study classes within the approved scope of the study unit, and organising examinations and tests in your study programme.

The main tasks of the lecturer are:

methodological, statistical and analytical work in own and related study programmes, lecturing, conducting study classes within the approved scope of the study part, as well as organising examinations and tests in own study programme.

Elections of academic staff shall be held by secret ballot at a meeting of the College Council. Academic staff are elected for six-year terms.

In the event of a vacancy or temporary vacancy in an academic post at the College, the College Council may decide not to open a competition but to recruit guest docents or guest lecturers for a period of up to two years, who shall have exactly the same rights, duties and remuneration as elected docents and lecturers. For certain courses, the College contracts with guest lecturers and guest docents to carry out specific work.

Academic staff carry out teaching, methodological and research work. As part of his/her teaching work, he/she lectures, conducts seminars, practical classes and laboratory work, accepts examinations, checks independent work, organises consultations, conducts and reviews qualification work, performs other duties related to the organisation of teaching work.

The academic staff involved in the study process are mostly professionals with extensive practical experience.

The College aims to improve the recruitment of academic staff in the coming years. Create a transparent and high quality recruitment system to select the most suitable candidates.

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

A performance-based remuneration system for staff is in place, which allows evaluating the quality of staff performance and motivate staff to regularly improve their professional qualifications, participate in research and international projects.

Staff are motivated to acquire the skills to work with the latest information and communication technologies and modern learning technologies needed for their professional duties.

Activities that have taken place:

- A study on the quality of teachers' work is carried out, and evaluation criteria are analysed and improved to identify weaknesses and hidden strengths.
- Staff views are identified and summarized so that they can be used as one of the grounds for change and innovation.
- An internal quality evaluation committee was set up to develop criteria for improving teachers' pay in line with the results of the quality evaluation of teaching work, to ensure the integration of research work into the study course programmes.
- Evaluation of the work of faculty staff and employees according to the criteria set out in the internal rules on remuneration: conducting applied research, participation in seminars, professional development courses, exchange trips, participation in international projects, creative work, publications, methodological work, advising incoming Erasmus+ students, organising study tours and workshops, participation in industry-related institutions.
- The individual performance of the teacher and the employee influences and is linked to the remuneration of the individual.
- Teaching load includes research work.

A system of planning and support for further training and qualification upgrading of teaching and administrative staff needs to be developed and implemented to ensure that by 2022 every RBC employee is engaged in professional qualification improvement in Latvia or abroad.

Planned activities:

- Develop guidelines for attracting new qualified teachers, including the most capable graduates of the College study programmes and young practitioners to the RBC.
- It is necessary to intensify the active participation of RBC teaching and administrative staff in the European Structural Funds and the ERASMUS+ programme.
- Encourage participation of academic staff in conferences and seminars abroad. Hold individual study courses at related universities.
- Establish a system of regular internships for teachers and administrative staff in sectoral companies or other institutions, Latvian and foreign higher education institutions.
- Increase the number of international students and students studying abroad, as well as guest lecturers to foster international cooperation in study and research.
- Attract new faculty staff and practitioners, respecting the principles of succession.

- Provide training for RBC staff in writing project applications.
- To develop a system of motivation and support for RBC teachers for Doctoral and Master studies.
- Involve all RBC teachers in research work or in the development of innovative applied research together with industry companies or other educational institutions.
- Continue to involve employers more actively in the organisation of the study process and in the evaluation of study results (in the development, management and review of joint applied research studies, course projects, qualification work examination committees, joint seminars, workshops, exhibitions, guest lectures, etc.).
- Develop applied research and qualification works for industry purposes, with third-party funding.
- Provide every teacher and employee who needs it with the opportunity to acquire and develop skills in the use of modern learning technologies in the study process, in working with digital teaching aids and the latest information technologies.
- Provide opportunities for academic staff to improve and learn foreign languages.
- Continue cooperation with higher education institutions and further strengthen continuity by coordinating Study programmes, cross-admittance of study modules, exchange of faculty staff.

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

Study programme	Number of faculty staff	Distribution of faculty staff by status
Construction	30	Docents - 11 Lecturers - 9 Assistants - 3 Guest docents, guest lecturers - 7
Engineering systems	18	Docents - 6 Lecturers - 6 Guest docents, guest lecturers - 6

Architectural technology	33	Docents - 9 Lecturers - 10 Assistants - 1 Guest docents, guest lecturers - -13
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Basically all faculty staff have a part-time academic load, three docents have more than one academic load. Six docents also have a full administrative load (the Director, the Deputy Director, the Directors of the "Building Construction", "Architectural Technology" and "Engineering Systems" study programmes and the International Relations Coordinator).

In the 2021/2022 academic year, 8 (14%) of the College lecturers are PhDs, including 2 elected, 6 guest lecturers (elected at other universities).

There is no research load for teaching staff.

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

In order to ensure quality implementation of career support content, it must be coordinated across courses, ensuring continuity and systemic approach in content implementation. Therefore, the cooperation between lecturers plays an important role in the implementation and integration of career support in study courses.

Involving industry professionals - through traineeships, company tours, meetings with industry representatives - plays a key role.

In situations where a student has initially chosen a specialisation that no longer appeals to them, it is important to help them find a suitable further specialisation, possibly within the College.

Students are supported in their studies by a curator and the Study Department that help both technically and psychologically. Support is also provided by the Deputy Director for Studies and Research and the Deputy Director for Education.

For international students, the International Department provides all kinds of assistance, and the Student Council is also there to help international students adapt to the College and deal with practical matters. International students can stay in the hostel or get help finding another place to live.

Students with disabilities are ensured environmental accessibility: there is a lift, wheelchair lift and facilities for wheelchair users, and a ramp at the entrance to the College. There is a disabled parking space at the College. A lift has been installed in the College hostel at Graudu Street 63.



## 2.4. Scientific Research and Artistic Creation

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

Higher education institutions have a dual link with industry and its enterprises.

Academic universities with a strong research culture are transferring new scientific developments to industry. Innovation is a complex process and requires appropriate collaboration with industry. This is the direct task of universities.

The aim of short cycle professional higher education is to provide in-depth knowledge in a specific field, with a focus on professional training. Unlike university education, college education does not have an extensive academic knowledge component and associated research work by lecturers and students, but elements of research work are gradually being introduced into the study process.

College lecturers therefore need to be able to respond dynamically to industry demand for specialists with specific knowledge and skills. Given that the introduction of new study programmes takes time, the ability of the college specialists, together with industry specialists to anticipate labour market demand, including the creation of in-demand modules for adult education, is particularly important.

Starting from 2011/2012 academic year, in addition to the development of the qualification thesis (diploma project), graduates of the study field also carry out applied research. There are plans to involve labour market representatives in joint applied research. Applied research is about solving a specific problem. In the thesis, students demonstrate that they understand the links between theory and practice and are able to carry out research, interpret the results and draw conclusions, as well as make recommendations for problem-solving based on the research. The quality of applied research is a major concern. Internal rules are in place: "[Regulations on the procedure for the development of applied research at Riga Building College](#)".

Student research conferences are held annually and [conference proceedings are published \(in Latvian\)](#), which are also available on the College website.

In October 2020, the Association of Latvian Colleges organised the Conference of Research Papers and Innovative Solutions of Latvian College Students. The aim of the conference was to draw the attention of representatives of ministries and members of the Saeima to scientific research in colleges. 1 representative from each institution, who has developed their research during their studies, presented their report. Elīza Kauliņa from RBC participated with her research: "The use of pigments in Mannerist sacred woodwork in Kurzeme" A collection of scientific papers was published after the conference.

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

Students and lecturers of the Architecture Programme of Riga Building College have participated in all 16 Latvian architecture schools' plenaries, receiving high marks and certificates of appreciation.

The plenaries serve as a platform for the exchange of ideas and experiences among future architects and urban planners. During the plenary students have the opportunity to meet and discuss with practicing architects and landscape architects, transport planners and real estate experts. Students of RTU, LLU, RISEBA and Riga Building College take part in the plenaries. Starting from 2019, students from the Academy of Art will also take part in the plenary.

The plenaries are organised by architect Sergejs Ņikiforovs and supported by the Latvian Union of Architects.

### Themes of the Architecture School plenaries

Plenary No.	Year	Plenary theme
16th plenary	In 2021	"Imanta + Zolitūde together"
15th plenary	In 2020	"Out of the grey zone"
14th plenary	In 2019	"Greenery of the Riga Congress House"
13th plenary	In 2018	"Mazjumprava Manor - Creation of a park as a garden art object and the landscape of the restored mill ruins as an interactive museum site"
12th plenary	In 2017	"Entire length of Cēsu Street"
11th plenary	In 2016 -	"North Gate of Riga"
10th plenary	In 2015	"Spatial development of Gaujas Street in Ādaži"
9th plenary	In 2014	"Proposals for the development of Tērbatas Street"
8th plenary	In 2013	"Housing: how it was, how it is, how it will be"
7th plenary	In 2012	"Garciems beach development"
6th plenary	In 2011	"Architectural and landscaping concept for the Mezaparks area at Kokneses prospekts 1A, Riga"
5th plenary	In 2010	"Urban space development opportunities for Pasta Island"
4th plenary	In 2009	Development opportunities of JSC "Jelgavas mašīnbūves rūpnīca" and the adjacent territory
3rd plenary	In 2008	"Spatial development vision for the Kylewein Ditch"
2nd plenary	In 2007	"Central Park in Riga - Uzvara Park"
1st plenary	In 2006	"House of the Future"

Since 2009, for eight years, students of the architecture programme have participated in the free art festival "White Page":

- to enrich Latvia's cultural life;
- to promote the diversity of art in Latvia;
- to bring together artists from different disciplines for creative work in the open air;
- to promote folk crafts;
- to introduce festival visitors to the process of creating artworks.

Within the project "Lielezere Park Improvement", a student construction design for a pedestrian bridge over the Suste River was developed. The sketches of the pedestrian bridge by the student Anna Bukava, which were developed as part of the academic work during the selection of the students' work, were used as a basis.

The bridge is inspired by the Saldus municipality coat of arms, which resembles a stylised honeycomb. The student's vision for the park is a coherent and cohesive ensemble.

The bridge is supported by a steel frame clad with wooden decorative elements. The bridge railing has a 5-cell projection on each side of the bridge railing.

In autumn 2019, Riga Building College accepted the invitation of the association "Mūsu ligzda" (Our nest) to participate in the project "Lielezere Park Improvement".

In October 2019, the students took a one-day excursion to get acquainted with the environment of Ezere and the current situation in Lielezere Park. RBC students created their own vision, offered their sketches and ideas for the future look of the park.

On their second visit to Ezere, the students studied the environment in depth during a three-day plenary and realised that the pedestrian bridge needed a new breath of life. A decision was taken to develop visions for a pedestrian bridge and to examine several options for the construction of the bridge. Source materials - a topographic plan and a geotechnical investigation report - were prepared. Preparatory work - surveying and photo-recording of the old bridge and banks - were performed. Design work began. The master plan, architectural, structural and work organisation parts of the design were developed, refining the bridge's outline. Explanatory description was developed. All the documentation was submitted for approval - as an Explanatory Statement for a Group I building. The design was submitted to the National Heritage Office and the Saldus Municipality Real Estate Department for approval. The Explanatory Statement was approved by the National Heritage Office within three days of submission. The next approval was received from the Saldus Municipality Real Estate Department. After receiving these approvals, the Explanatory Statement for the bridge was submitted to the Saldus Municipality Construction Board, and within a few days the design was approved. All the necessary permits were obtained to start construction of the bridge.

It's rare when ideas come to life while you are still a student! The association "Mūsu ligzda" has implemented the LEADER public benefit project "Lielezere Park Improvement", within the framework of which the construction works in Lielezere Park have been completed. A new and sturdy pedestrian bridge has been built in Lielezere Park. The bridge was built in cooperation with the Riga Building College, which has a long-standing and very positive cooperation with the Association in creating the image and technical solutions for the Lielezere Park.

The design was presented at the Riga Building College 2020 Student Research Conference and included in the Collection of Articles.

The conclusion is that cooperation between municipalities, including their associations, should be promoted. Professional higher education institutions should be involved in both the search for ideas and their implementation.

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

Within the framework of a cooperation project (based on a bilateral agreement), every autumn (October-November), since 2005, RBC students and lecturers participate in a project week or creative plenary in Germany together with students and staff from the Balthasar Neumann Technical School in Trier, and in spring (May) the project week takes place in Riga. The project themes vary from year to year, covering sustainable construction, passive buildings, interior solutions, energy efficiency, environmental protection, environmental accessibility, etc. The themes of the project - plenary are prepared in advance in each educational institution, including the most up-to-date information on architecture, building materials and design technologies. During the project, conceptual designs for construction proposals are developed, analysed and presented. The project is supported by the universities themselves and the participants.

Starting from 2019, students from VIA University College Denmark (Holstebro, Denmark) joined the project and, in collaboration with their lecturers, developed and presented a real-world learning project.

Students work together in groups, where they gain valuable experience of cooperation and develop teamwork, creativity and artistic creativity.

**COOPERATION PROJECTS RBC-BNT-VIA UC**

<b>Hosting country</b>	<b>Year of implementation</b>	<b>Project- plenary theme</b>
Latvia	2019	A small building in the Latvian landscape
Germany	2019	3-D printed houses for families in developing countries
Denmark	2019	Development proposal for an industrial building in Holstebro
Latvia	2018	RBC interior solution offer
Germany	2018	Vision and ideas for start-ups

Latvia	2017	RBC workshop interior solution offer
Germany	2017	Holiday home for a university professor in the Moselle Valley
Latvia	2016	RBC solution for interactive space
Germany	2016	Panoramic cafés in the Moselle Valley, a solution for sustainability and energy efficiency
Latvia	2015	Refurbishment and renovation of the RBC canteen
Germany	2015	Weekend house using green energy
Latvia	2014	RBC training workshop renovation project
Germany	2014	BNT canteen renovation proposal and lobby design solution

Scientific research is addressed through Erasmus+ strategic partnership projects.

Erasmus+ "Strategic Partnerships" project "Analysis and Comparison of European Design Codes and Chinese Code of Practice" AVEC-BNT-2015-1-DE02-K202-002407 (acronym: AVEC-BNT)

Project objective: to study and compare European norms (Eurocodes) and Chinese building norms in the design and construction process of reinforced concrete structures. The result is a voluminous digital methodological resource for university students and docents.

Project partners:

- Bathasar Neumann Technikum Trier (coordinator), Trier, Germany
- University of Trier, Trier, Germany
- University of Luxembourg, Luxembourg
- Riga Building College, Riga, Latvia
- Hong Kong Institute of Technology, Hong Kong

Another strategic partnership project is currently underway: No 2020-1-LV01-KA203-077513 "Sustainable, High-Performance Building Solutions in Wood" (acronym: HiBiWood).

Project objective is to develop and deliver a new interdisciplinary module on sustainable, high-performance timber building systems that meet the needs of higher education institutions and the labour market.

Project partners:

- Riga Building College (coordinator), Riga, Latvia
- Klaipeda State University of Applied Sciences, Klaipeda, Lithuania
- Study and Consulting Centre, Vilnius, Lithuania
- FH Campus Wien, University of Applied Sciences, Vienna, Austria
- Cracow University of Technology, Cracow, Poland

- Hämen University of Applied Sciences, Hämenlinna, Finland

**2.4.4. Specify the way how the higher education institution/ college promotes the involvement of the teaching staff in scientific research and/or artistic creation. Provide the description and assessment of the activities carried out by the academic staff in the field of scientific research and/or artistic creation relevant to the study field by providing examples.**

Research work of RBC docents is oriented towards applied research, priority directions of research work are related to specific study courses. Involvement of academic staff in scientific research ensures continuous improvement of study programmes and compliance with the latest scientific trends, provides feedback to employers and professional associations in conducting applied research, promotes scientific research cooperation with higher education institutions of other countries. Research conferences are organised every year and collection of conference articles are published.

Several docents have held solo exhibitions of their creative work.

The duties of academic staff and lecturers are related to the development of course descriptions and content of the study programme, preparation of teaching content and methodological materials. Within the study process, the work of academic staff is related to the management of the relevant study course, participation in the development of the content of the diploma project, consultancy, research work and the development of applied research.

Academic staff and students have access to computers, audio and video resources, office equipment and databases for applied research. Students and lecturers, as well as visiting lecturers and academic staff and students of other HEIs have the opportunity to visit the RBC library and methodological room, work with computers, copy, scan the necessary materials, as well as make large format prints (A1 and A0 format).

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

Student research activities are financially supported by the College through the purchase of materials, infrastructure and facilities. Cover letters are written and permission is requested for applied research in archives, museums, libraries, paying the fee for access to databases. Students and faculty staff are covered for travel and living expenses for bilateral cooperation projects, participation in international scientific conferences, seminars and competitions, and travel to professional exhibitions of building materials and construction technologies. The College management and docents have extensive experience in various international research projects.

A number of joint research projects with museums, companies and other colleges have been successfully implemented.

The future activities of the College include the planned, systematic development of new research projects in collaboration with industry and other universities pursuing related fields of study.

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

The following competition has been held in Latvia since 2013: "Sustainability in Architecture, Construction, Design", and for nine years now students of the RBC Architecture programme have been taking part in this competition, winning prizes in the "Most Sustainable Student Idea" nomination.

Aims of the competition:

- to identify existing sustainable building projects and sites, to draw architects' attention to the resources available in Latvia for creating sustainable buildings;
- to spark interest of future professionals in sustainable urban and built environment development, to share information, experience, knowledge and ideas on sustainable building and urban development and conditions in Latvia.

Tasks of the competition:

- promoting sustainable construction ideas;
- public education;
- the need to highlight local best practice;
- share information on the success factors of such projects.

**Participation and achievements of Architecture students of RBC in the competition "Most Sustainable Building and Project" in the nomination "Most Sustainable Student Idea in Latvia"**

Year	Achievement	Nomination - Most Sustainable Student Idea in Latvia
2021	Diploma 1st place	House for rockers
2020	Certificate of Appreciation	Interior of the Assembly Hall at Riga Building College.
2019	Diploma 3rd place	catalogue "Small building in Latvian landscape"
2018	Certificate of Appreciation	Proposal from the RBC History Museum
2017	Certificate of Appreciation	RBC workshop development proposal
2016	Diploma 2nd place	Interactive space of Moscow City District
2015	Diploma 1st place	RBC canteen reconstruction concept

2014	Diploma 2nd place	Proposal for the renovation of the RBC workshops,
2013	Diploma 2nd place	Slampe district, Tukums region Interior solution for the Zemgale Secondary School's assembly hall

The College has carried out two commissions:

- "Reconstruction of the façade of the Ministry of Agriculture building" (Commissioner - Ministry of Agriculture)
- "Conceptual design of "Likteņdārzs" ("Garden of Destiny") memorial building" (Commissioner - Koknese Foundation)

## 2.5. Cooperation and Internationalisation

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

Internships are selected from competitive construction companies that are licensed, registered, free of tax arrears, with a high level of quality workmanship and a reputation as a reliable, accurate partner.

An equally important aspect in the choice of cooperation companies are companies whose core values are focused work with cooperation partners, as well as in the communication between employees, which have stability - a sustainable player in the business environment, a construction company recognised by clients and employees.

Cooperation partners are selected according to each field of study and study programmes. One of the ways of cooperation is electronic communication via e-mail, WhatsApp, telephone, inviting employers to visit RBC, presenting their company, addressing students, inviting to internships.

We use the opportunities offered by the web portal [www.prakse.lv/en](http://www.prakse.lv/en).

RCK has been cooperating partners for several years with Latvian Employers Confederation, Builders' Association, RTU Development Fund, Latvian Construction Industry Trade Union, Latvian Free Trade Union, State Building Control Office, Riga Municipality Agency, Latvian Architects' Union, Association of Restorers.

Cooperation with companies is mostly realized in the study process and in the monitoring of study programs - students are offered internships in companies, company representatives are on examination commissions of all levels, and also provide regular recommendations for improving the



study content in accordance with the current demand of the labor market. There is an observable trend of increasing cooperation with national and international level companies. Various innovative forms of cooperation with entrepreneurs, involving students in companies founded by RBC graduates.

Cooperation partners are selected according to each field of study and study programs. One of the ways of cooperation is electronic communication via e-mail, using Whatsapp, internet portal prakse.lv, communicating by phone, inviting employers in person - RBC, presenting your company, addressing students, inviting for internships.

Competitive construction companies are selected for internships, which are licensed, registered, without tax debts, construction companies with a high level of work quality, with a reputation as a reliable, accurate cooperation partner.

No less important aspect in the selection of cooperation companies is for companies whose core values are purposeful work with cooperation partners, as well as in the mutual interaction of employees, who have stability - a sustainable player in the business environment, a construction company recognized by customers and employees.

Cooperation and communication in RBC – regular meetings of employees involved in research both within RBC's research directions (at least once a month) and also in the organization as a whole (at least once every six months), ensuring the circulation of current information:

- cooperation with Latvian and foreign higher education and scientific institutions within the framework of existing cooperation agreements, as well as developing cooperation with new partners;
- involvement in the scientific activities of partner institutions - participating in conferences, discussing project ideas, etc. c.;
- maintaining and activating cooperation with businessmen (including participation in various business organizations), organizing regular meetings (also through the Study Direction Councils) in order to obtain current information on current problems in the field of business, as well as to inform cooperation representatives about scientific current events and trends;
- involvement in the implementation of various projects;
- cooperation with institutions of secondary professional education in order to create interest and understanding among young people even before entering university.

By communicating with cooperation partners and industry experts, meeting with employers' representatives and graduates, improvements are made in the operation of the study field.

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

The objectives of the RBC field of study are closely linked to those of the professional standards "[Professional standard of architectural technologist](#)" (information available in Latvian only)

(approved at the meeting of August 14, 2019, protocol No. 5), "[Professional standard of construction work manager](#)" (information available in Latvian only) (approved at the meeting of August 11, 2021, protocol No. 5) and "[Engineering System Construction work Manager](#)" (information available in Latvian only) (regulations of Minister Cabinet No. 461, approved on May 18, 2010, protocol No. 25, paragraph 33), i.e. the main objective is to prepare students to work in a specific profession, and to do so in a high-quality manner so that graduates are able to compete in the labour market at both national and international level. Therefore, cooperation with foreign institutions - higher education institutions, employers' organisations, scientific institutions, etc. (see Annex 2 "2.5.1. List of cooperation agreements" - is also oriented towards the preparation of theoretically knowledgeable and practically capable specialists in the fields of architecture and construction within three years of studying at the College.

When selecting cooperation partners abroad, the first step is to assess whether the potential partner has similar study programmes in the event of higher education institutions and whether the non-education organisations have a similar profile. Secondly, the objectives of the study programme of the educational institution are assessed, whether they are aimed at increasing the competitiveness of graduates, the productivity, efficiency and added value of the workforce, and whether the cooperation partners use new, advanced technologies and materials in the theoretical and practical training of students.

The aim of the study direction, in accordance with the above-mentioned professional standards, is to prepare students for activity in a certain profession. The aim and tasks of the study direction comply with the guidelines of the EU Qualification in the European Education Area and the 5th level of the European Qualification Framework (EQF) ([Regulations on Latvian education classification, regulations of Minister Cabinet No. 322, July 13, 2017](#)) (information available in Latvian only). The aim of the study direction is in line with the mission of the Riga Building - within three years, to prepare theoretically knowledgeable and practically capable specialists for the private and public sector, emphasizing the specifics of Latvia as a member of the European Union.

The general trend in the world is towards increasing the productivity, efficiency and added value of the workforce. This is achievable with new, advanced technologies and materials. Technologies include not only practical skills, but also the use of Building Information Modelling (BIM), which allows for more accurate planning and control of the work to be performed. These measures generally result in improvement of quality and productivity and more efficient use of the workforce.

RBC, in cooperation with foreign institutions, pays special attention to whether, for example, the use of BIM, energy efficiency and green construction issues are integrated into study programs of partner universities. When coordinating the program of guest speakers, preference is given to theoretical or practical classes related to new technologies and materials. Cooperation with foreign partners is aimed at achieving the objectives of the study programs:

- to provide knowledge, create and develop the set of skills, abilities and attitudes necessary for performing professional activities;
- to ensure the acquisition of such knowledge and skills that would allow graduates to successfully integrate into the labour market after completing the program, to be able to undertake and perform the set of duties of the profession;
- to ensure the acquisition of modern general knowledge by involving in the study work guest lecturers, industry specialists who could share their practical experience;
- create the study process in such a way that the students' self-education and involvement in professional further education processes and raising of the level of qualifications is promoted;

RCK also tries to get involved in international projects related to new advanced technologies and materials, for example, RCK is the coordinator of the Erasmus 2+ Strategic Partnership project

"Sustainable, High-Performance Building Solutions in Wood" (No. 2020-LV-01-KA203-077513 , HiBiWood project), the purpose of which is to conduct student training in the project's member states (Poland, Finland, Austria, Lithuania, Latvia) and to develop a joint study course on the mentioned topic. So far, 10 RBC students from the programs of Architecture and Building science have been involved in training activities within the HiBiWood project, participating in 2-week seminars at FH-Campus Wien University (Austria) and Technical University of Krakow (Poland). In March 2023, such a seminar with students from all Partner states is planned to be held at Riga Building College.

All foreign universities with which the RBC has bilateral cooperation agreements have similar study programmes. There are different mechanisms for attracting partners, and the information on the partner university's website plays an important role. The information on study programmes, their aims and content in English is essential factor that is evaluated without even starting direct communication with the partner university. The next stage of the partner assessment involves a detailed analysis of the content of the respective study programmes - whether they integrate entrepreneurship, labour law, labour and civil protection, BIM competences. The ranking and references of the university also play a role in the choice of partners. Often new partners are brought in through recommendations from existing partners. International cooperation is mainly carried out within the framework of various Erasmus+ projects, and consists of:

- inbound or outbound study mobility of students (to or from partner universities);
- inbound or outbound internship mobility of students (to relevant companies);
- inbound or outbound lecturing mobility of staff (to or from partner universities);
- outbound or inbound experience improvement mobility of staff (to or from partner universities).

Cooperation with foreign partners is organized differently and at different levels, most of the activities being carried out by the coordinator of the respective projects, for example, program directors or RCK international relations coordinator. They attract and coordinate the other actors involved accordingly. In both RBC and cooperation partner universities, the project coordinators' duties are most often undertaken by international relations coordinators or Erasmus+ coordinators. All communication is mostly electronic, with rare exceptions, for example, when urgent matters need to be addressed, then the telephone conversations or correspondence on WhatsApp are used. If the cooperation framework is intended for mobility, first of all, a bilateral cooperation agreement is concluded with the partner organization, as well as individual participant agreements are signed (e.g. Erasmus+ agreements). The main person responsible for the preparation of contracts is the coordinator of the given project, and for the achievement of the quantitative and qualitative goals of the project - its executors. Before starting the mobility, the type, time and place of the specific activity are agreed upon. All issues related to the finances of the project - preparation of financial plans, execution of transfers, accounting, processing of financial data - are organized and carried out by RCK employees - accounting.

In all cases, the implementation of participant mobilities is confirmed by a certificate of participation issued by the host university, which indicates the mobility participant's name, surname, mobility start and end dates, as well as the number of lecture hours. On the part of RBC, all individual Erasmus+ contracts are signed by the international relations coordinator of RBC, and on the part of the partners - by the international relations coordinator of the relevant university, Erasmus+ coordinator, head of the structural unit. Individual financial contracts, as already mentioned, is signed by the director of RCK.

Mechanisms for attracting partners are as follows:

- participation in various Erasmus+ projects (KA103, KA107, KA 202, KA 131, etc.);

- posting information on the website of the State Education Development Agency;
- posting information on the RCK website;
- starting communication with potential partners;
- using the contacts and data of already existing partners.

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

Attracting foreign students and faculty staff is mainly done through Erasmus+ programmes. The main mechanisms of attraction are:

- participation in Erasmus+ projects;
- posting information on the website of the National Education Development Agency;
- sending information to partner universities (as well as to universities that are not yet partners) on the possibilities of study or teaching mobility to the RBC;
- posting information on the RBC website;
- Riga Building College has participated in the implementation of various Erasmus+ project activities in the period 2016-2022, involving both inbound and outbound student and faculty staff activities;
- Erasmus+ Framework Key Action 1 (KA 103) Mobility of people between programme countries in the higher education sector, 7 projects;
- Erasmus+ Framework Key Action 1 (KA 107) Mobility of people between programme countries and partner countries in the higher education sector, 6 projects;
- Erasmus+ Framework Key Action 2 (KA 202) strategic partnership projects, 2 projects where RBC participated as a partner in one project and RBC is the applicant and coordinator in the other one, which will end in autumn 2023.

In the experience of the RBC, attracting international students and staff depends on a number of factors:

- quality of outbound teaching mobility - the quality of the performance of the RBC's own docents on teaching mobility abroad - if lectures or practical sessions are well received, this is followed by the interest and willingness of incoming students and staff to work with the RBC. The reverse has also been observed: if outgoing teaching mobility is not of high quality, the interest of foreign students and lecturers to collaborate is also lower, which is why the RBC pays great attention to ensuring that outbound teaching mobility is not random, that it is well prepared in terms of content, that the teaching methods are modern, with well thought-out and engaging design;
- available funding - In Erasmus+ KA103 projects, inbound student and faculty mobility is funded from funds available to the partner institution, while Erasmus+ KA107 projects have had the best results in attracting international students and faculty staff, as in this case the beneficiary was the RSC and was able to successfully attract students and partners from higher education institutions in the partner countries. In this way, the RBC was able to attract 23 teachers (Albania, Bosnia and Herzegovina, Palestine, Russia) and 2 students from Bosnia and Herzegovina during the period, using the funding at its disposal.

In total, between 2016 and 2022, the RBC has had 10 inbound student mobilities from Denmark, Turkey and, as already mentioned, Bosnia and Herzegovina. 22 students from the RBC have gone on for studies, and 9 students have gone for internship. Unfortunately, despite the RBC's existing financial resources, there will be a drop in both inbound and outbound students in 2019, 2020 and 2021 due to the Covid 19 situation worldwide. While staff mobilities lasted generally 2-7 days and were easier to apply to Covid grace periods, the situation was incomparably more complex for student study mobilities, which start and end on specific dates, leaving a significant number of student mobilities unfulfilled.

In terms of staff, 63 docents and 54 staff members travelled to the RBC for experience improvement mobility. 56 docents from RBC went to partner universities for teaching mobility and 55 staff members - for experience improvement mobility. See Annexes for more details on the dynamics of both student and staff mobility by year and country:

- 2.5.3. Statistical data on the teaching staff and the students from abroad.pdf
- 2.5.3. Statistical data on the incoming and outgoing mobility of students.pdf
- 2.5.3. Statistical data on the incoming and outgoing mobility of the teaching staff.pdf

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

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

The experts' recommendations and proposals introduced significant adjustments in the further implementation, development and quality assurance of the existing study programmes.

Most of the recommendations were repeated for the field of study and the programmes. And some of the recommendations were of formal nature.

Implementation of the recommendations was commenced immediately after the decision on accreditation - April 10, 2017.

Study programme directors were required to develop proposals for the implementation of the field and programme recommendations and to communicate them to the stakeholders (management, lecturers, students, support staff) in order to help all the stakeholders understand the recommendations made by the experts. A plan was drawn up, deadlines and responsibilities were identified, and discussions took place on the most effective measures to achieve the objectives, as clarification was needed on the need to introduce the activities. The plan was presented at departmental meetings. This was followed by a gradual, planned implementation of the recommendations, improvements in the content of the study process and long-term improvements in the content were made.

We agreed with the experts that the current programme title "Architecture" may give an inappropriate impression of the content of the programme and that "Architectural Technology" would be more appropriate. The College Council decided to close the study programme

"Architecture" as of 1 July 2022.

Taking into account the opinion and recommendations of the Expert Committee, the qualification "Architectural assistant" was rightly removed from the Construction Sector Qualifications Framework and replaced by the qualification "Architectural Technologist".

During the reporting period, a new study programme "Architectural Technology" (qualification - Architectural Technologist) 180 ECTS (120 CP) has been developed and licensed within the study field, which replaces the previous study programme "Architecture", where the qualification of Architectural Assistant was obtained.

According to the experts' recommendations, title of the study programme "Building Science" was changed to the study programme "Building Construction", which is more comprehensible in Europe and more in line with the content of the programme.

The experts' recommendations have materialised in substantial improvement of the College's material and technical base and the development of its infrastructure. Within the framework of the ERDF project "Modernisation of the Building Materials Properties Testing Laboratory" (project No. 8.1.4.0/17/I/006), modern building materials testing laboratory and a building materials room with a "library" of several hundred samples of different building materials and a large collection of minerals and rocks obtained in cooperation with the Faculty of Geography and Earth Sciences of the University of Latvia was created. Samples of building materials were obtained by visiting international exhibitions of building materials and construction products abroad, as well as from manufacturers and distributors.

The aim of the project is to improve the study environment of STEM programmes at Riga Building College (RBC) – to modernise the building materials laboratory by equipping it with modern equipment for testing of building materials, inventory and computer hardware suitable for effective training of students in working with specific computer programmes used in construction – BIM technologies.

Renovated 5th floor rooms, created spaces suitable for architectural technology students – creative workshops with interactive whiteboards and height-adjustable work tables for students.

According to the experts' recommendations, we were a partner organisation in the Erasmus + "Strategic Partnership" project "Analysis and Comparison of European Design Codes and Chinese Code of Practise" AVEC-BNT-2015-1-DE02-K202-002407 (acronym: AVEC-BNT)

Aim of the project: to study and compare European norms (Eurocodes) and Chinese building norms in the designing of reinforced concrete structures and construction process. The result is a voluminous digital methodological resource for university students and docents.

Project partners:

- Bathasar Neumann Technikum Trier (coordinator), Trier, Germany
- University of Trier, Trier, Germany
- University of Luxembourg, Luxembourg
- Riga Building College, Riga, Latvia
- Hong Kong Institute of Technology, Hong Kong

Another strategic partnership project is currently underway, where we are the coordinators: No 2020-1-LV01-KA203-077513 "Sustainable, High-Performance Building Solutions in Wood" (acronym: HiBiWood)

Project objective is to develop and deliver a new interdisciplinary module on sustainable, high-performance timber building systems that meet the needs of higher education institutions and the

labour market;

Project partners:

- Riga Building College (coordinator), Riga, Latvia
- Klaipeda State University of Applied Sciences, Klaipeda, Lithuania
- Study and Consulting Centre, Vilnius, Lithuania
- FH Campus Wien, University of Applied Sciences, Vienna, Austria
- Cracow University of Technology, Krakow, Poland
- Hämen University of Applied Sciences, Hämeenlinna, Finland

The study process is designed in relation to the latest technological developments in construction, architecture and engineering systems, and the curricula were updated, focusing on such important topics as energy efficiency of buildings, sustainable construction, alternative energy sources, rainwater use, etc. New courses have been added to the study programmes: Building Information Modelling (BIM fundamentals and use), photogrammetry, construction supervision, project management, building structural systems and modelling, digital architectural modelling, construction supervision, etc.

The experts' recommendations and the changes made had a positive impact on the study process during the reporting period.

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

The recommendations and changes made by the experts of the licensed study programme "Architectural Technologist" had a positive impact on the study process during the reporting period. Courses of study were merged, with integrated and subordinate tasks, gradually learning automated programmes. The first years of study should provide a basic knowledge of the chosen profession, which students must develop later in order to achieve the expected results. Coordination of the content of the courses within the programme was also carried out. Knowledge and understanding from the combined courses are integrated, content is coordinated, and the learning process is updated and developed. The reading lists were systematized and methodically organized in the study courses, structured according to the programme course descriptions, tasks and information flow. This has a positive impact on the study process. The expert recommendations, college activities, results to be achieved, implementation timelines and implementation of the recommendations can be seen in the table below.

Report on the implementation of the recommendations of the "Architectural Technologist"

Table 9

No.	Expert group recommendation	University/College activity	Results to be achieved	Deadline for implementation	Implementing recommendations

1.	BIM Fundamentals and Application, Innovative Technologies in Architecture and Construction (ATBIM2-4) and the part-duplicate course Introduction to Building Information Modelling for Architects (ATBIMPR1-4). Explain how content and teacher collaboration are coordinated to deliver integrated tasks.	Both courses have integrated and subordinate tasks, progressively learning the automated design programmes.	The titles of the courses were updated to reflect the content: <b>Introduction to Building Information Modelling for Architects</b> (ATBIMPR1-4) updated to <b>BIM Fundamentals</b> (ATBIMPR1-4) <b>Application of BIM, Innovative Technologies in Architecture and Construction</b> (ATBIM2-4) remains unchanged.	August 25, 2020	<b>Introduction to Building Information Modelling for Architects</b> (ATBIMPR1-4) updated to <b>BIM Fundamentals</b> (ATBIMPR1-4) by the start of the programme .
2.	Provide an explanation of the interconnection of the study courses in terms of content and time management (Building Engineering Systems, Process Digitization (ATEIPD4), Construction Technology and Digitization of the Construction Process (ATBTDI5), Architectural Design and Digital Modelling (ATAPDM1-5))	All of the above courses have integrated and subordinate tasks. The first years of study should provide a basic knowledge of the chosen profession, which students will need to focus on in later years to achieve the expected results.	The link between content and time management was assessed.	August 25, 2020	There is a link between content and layout.



3.	Explain the coordination of the content of the courses Entrepreneurship (ATUD4), Fundamentals of Law (ATTP4), Legislation and Project Management (ATLPV4) and Fundamentals of Spatial Planning (ATTPP4) within the programme.	The general studies courses - Entrepreneurship (ATUD4), Fundamentals of Law (ATTP4), Legislation and Project Management (ATLPV4) - are necessary and appropriate for the level of education. The study course Fundamentals of Spatial Planning (ATTPP4) and the study course Architectural Design and Digital Modelling integrate the knowledge and understanding from the above courses, coordinating their content in the actualization and development of the educational process.	Coordination of the content of the courses within the programme has been carried out.	August 25, 2020	Linkages and content coordination within the programme are in place have been established.
4.	Evaluate the content of the courses Practical Building Physics (ATPB3), Building Materials and Building Products (ATBB1-2), Building Structures (ATBK2-5), Building Mechanics (ATBM1-3), Building Structural Systems and Modelling (ATEKSM1-3) and partly Building Engineering Systems, Process Digitization (ATEIPD4) to avoid multiple repetition of the same topic or issue. Make the themes of the content more relevant to the requirements of an architectural technologist.	Ensure that the courses in question have a variety of content and interconnections and that there is no repetition of topics.	Coordination of the content of the courses within the programme has been carried out.	August 25, 2020	The topics of the courses do not repeat and are designed to meet the requirements of an architectural technologist. Students develop an understanding of constructive solutions, applicable materials in course projects, topic solutions and evaluate problems from different perspectives, avoiding repetition of the same topics or issues.

5.	Evaluate the relevance of the content of the courses Landscaping and Transport (ATLT3) and Cultural Heritage Values and Technologies (ATKVT3) to the qualification of Architectural Technologist, narrowing the scope of the subjects covered. The possibility of integrating the topics covered into other study courses (e.g. ATAPDM1-5) should be explored.	The range of issues and topics covered in these study courses are narrowed down and integrated into the study course <b>Architectural Design and Digital Modelling</b> by the start of the study process creating a joint course called <b>Digital Modelling in Architecture</b> .	The coordination of the content of these study courses has been assessed and the integration of the topics into a common study course called <b>Digital Modelling of Architecture</b> has been carried out.	December 31, 2020	The scope and topics of the study courses Landscaping and Transport and Cultural Heritage Values and Technologies have been narrowed down and integrated into a common study course called <b>Digital Modelling of Architecture</b> by the start of the study process.
6.	Evaluate the need for two similar courses - Renovation and Reconstruction of Buildings (ATEAP5) and Renovation of the Architectural Spatial Environment (ATATVA4). The possibility of combining these courses should be explored.	To merge the study courses Renovation and Reconstruction of Buildings and Renovation of the Architectural Spatial Environment to form a joint study course entitled <b>Renovation and Reconstruction of Buildings and Spatial Environment</b> .	Two study programmes merged into one.	August 25, 2021	The programme <b>Renovation and Reconstruction of Buildings and Spatial Environment</b> was created by combining two study programmes into one.
7.	To analyze the content of the programme, develop and present a substantive comparison of the study programme (content, scope and timing of courses, content of the qualification work (diploma project), overall study process, etc.) with a college-type educational institution in Europe.	Compare and analyze study programmes at college-type educational institutions in Europe. Anglia Ruskin University Chelmsford's Architectural Technologist programme with Scoil Ailtireachta Bhaile Átha Cliath Dublin School of Architecture's Architectural Technologist programme and Riga Building College's Architectural Technologist programme.	Comparisons show that the subject programmes are similar.	July 6, 2020	Comparing the study programme Architectural Technologist we can conclude that the courses of study of the subject programmes are - in comparison - similar, the time schedules - study duration 3 and 4 years and diploma projects are being developed.

8.	Revise course descriptions and develop a reading list appropriate to the course content.	The study courses systematically and methodically organize the reading list.		July 6, 2020	The literature list is systematized and methodically organized in the study courses, structured according to the programme course descriptions, objectives and information flow.
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# Annexes

I - Information on the Higher Education Institution/ College		
Information on the implementation of the study field in the branches of the higher education institution/ college (if applicable)		
List of the governing regulatory enactments and regulations of the higher education institution/ college	1.2. List of key internal regulations.pdf	1.2. Saraksts ar galvenajiem RCK iekšējiem normatīvajiem aktiem un regulējumiem.pdf
The management structure of the higher education institution/ college	1.2. RCK Structure.pdf	1.2. RCK struktūra.pdf
II - Description of the Study Field - 2.1. Management of the Study Field		
Plan for the development of the study field (if applicable)	2.1.2 Development plan for the field of study.pdf	2.1.2. Studiju virziena attīstības plāns.pdf
The management structure of the study field	2.1.3. The governance structure of the study programme.docx	2.1.3. Studiju virziena pārvaldības struktūra.docx
A document certifying that the higher education institution or college will provide students with opportunities to continue their education in another study programme or another higher education institution/ college (agreement with another accredited higher education institution or college) if the implementation of the study programme is terminated.	2.1.4. Cooperation Agreements.pdf	2.1.4. Sadarbības līgumi.pdf
A document certifying that the higher education institution or college guarantees compensation for losses to students if the study programme is not accredited or the study programme license is revoked due to actions (actions or omissions) of the higher education institution or college and the student does not wish to continue studies in another study programme.	2.1.4. On compensation for damages.pdf	01-09-86e_AIC par zaudējumu kompensāciju_30.08.2022.[13295].edoc
Standard sample of study agreement	2.1.4. Study Agreements examples.pdf	2.1.4. Studiju līgumu visi paraugi.pdf
II - Description of the Study Field - 2.2. Efficiency of the Internal Quality Assurance System		
Analysis of the results of surveys of students, graduates and employers	2.2.4. Surveys All.pdf	2.2.4. Aptaujas visas.pdf
II - Description of the Study Field - 2.3. Resources and Provision of the Study Field		
Basic information on the teaching staff involved in the implementation of the study field	2.3.7. List of teaching staff involved in the implementation of the study program.xlsx	2.3.7. Studiju programmas īstenošanā iesaistīto mācībspēku saraksts.xlsx
Biographies of the teaching staff members (Curriculum Vitae in Europass format)	CV_all_EN.docx	CV_visi_LV.docx
A statement signed by the rector, director, head of the study programme or field that the knowledge of the state language of the teaching staff involved in the implementation of the study programmes within the study field complies with the regulations on the state language knowledge and state language proficiency test for professional and official duties.	2.3.7. Latvian language proficiency.pdf	2.3.7. Apliec. par valodas prasmi.pdf
A statement of the higher education institution/ college on the respective foreign language skills of the teaching staff involved in the implementation of the study programme at least at B2 level according to the European Language Proficiency Assessment levels (level distribution is available on the website www.europass.lv, if the study programme or part thereof is implemented)		
II - Description of the Study Field - 2.4. Scientific Research and Artistic Creation		
Summary of quantitative data on scientific and/ or applied research and / or artistic creation activities corresponding to the study field in the reporting period.	2.4.4. Quantitative data of the academic staff.pdf	2.4.4. Kvantitatīvo datu apk studiju virzieniem.pdf
List of the publications, patents, and artistic creations of the teaching staff over the reporting period.	2.4.4. List of publications.pdf	2.4.4. Mācībspēku publikācijas.pdf
II - Description of the Study Field - 2.5. Cooperation and Internationalisation		
List of cooperation agreements, including the agreements for providing internship	2.5.1. List of Cooperation agreements.pdf	2.5.1. Sadarbības līgumu saraksts.pdf
Statistical data on the teaching staff and the students from abroad	2.5.3. Statistical data on the teaching staff and the students from abroad.pdf	2.5.3. Statistikas dati par ārvalstu studējošajiem un mācībspēkiem.pdf
Statistical data on the incoming and outgoing mobility of students (by specifying the study programmes)	2.5.3. Statistical data on the incoming and outgoing mobility of students.pdf	2.5.3. Statistikas dati par studējošo izejošo un ienākošo mobilitāti.pdf
Statistical data on the incoming and outgoing mobility of the teaching staff	2.5.3. Statistical data on the incoming and outgoing mobility of the teaching staff.pdf	2.5.3. Statistikas dati par mācībspēku ienākošo un izejošo mobilitāti.pdf
II - Description of the Study Field - 2.6. Implementation of the Recommendations Received During the Previous Assessment Procedures		
Report on the implementation of the recommendations received both in the previous accreditation and in the licensing and/ or change assessment procedures and/ or the procedures for the inclusion of the study programme on the accreditation form of the study field.	2.6.1. Evaluation of execution of the implementation plan.pdf	2.6.1. Rekomendāciju izpildes pārskats.pdf
An application for the evaluation of the study field signed with a secure electronic signature	01-9-85e_RCK iesniegums AIKA[13292]_30.08.2022..edoc	01-9-85e_RCK iesniegums AIKA[13292]_30.08.2022..edoc
III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme		
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period		
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with the study programme with the State Education Standard		
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard or the requirements for professional qualification (if applicable)		
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme		
The curriculum of the study programme (for each type and form of the implementation of the study programme)		
Descriptions of the study courses/ modules		
Description of the organisation of the internship of the students (if applicable)		
III - Description of the Study Programme - 3.4. Teaching Staff		

Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		
Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		

## Other annexes

Name of document	Document
2.3.3. grāmatu saraksts.pdf	2.3.3. grāmatu saraksts.pdf
2.2.2. Procesu raksturojošie rādītāji	2.2.2. Procesu raksturojošie rādītāji.pdf
2.2.2. Process indicators	2.2.2. Process indicators.pdf
Studiju virziena "Arhitektūra un būvniecība" studiju programmas	Studiju programmas.edoc
1.1. Strategisko merku struktura.pdf	1.1. Strategisko merku struktura.pdf
1.1. Detailing of strategic objectives.pdf	1.1. Detailing of strategic objectives.pdf

# Engineering systems (41582)

Study field	<i>Architecture and Construction</i>
ProcedureStudyProgram.Name	<i>Engineering systems</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>Inga</i>
Surname of the study programme director	<i>Roga</i>
E-mail of the study programme director	<i>inga.roga@rck.lv</i>
Title of the study programme director	<i>Mg.sc.ing. Rīgas Tehniskā universitāte Būvniecības fakultāte, Inženierzinātņu maģistra grāds, Siltuma, gāzes un ūdens tehnoloģijas</i>
Phone of the study programme director	<i>+371 29431319</i>
Goal of the study programme	<i>The aim of the study program is to prepare specialists corresponding to the needs of the construction industry who carry out the planning and management of the construction of specific engineering systems based on the project documentation, the conditions of the contract for the realization of the construction object and their own experience.</i>

Tasks of the study programme	<p><i>To provide the knowledge necessary for the performance of the main tasks of the professional activity at the level of conception and application in accordance with the occupational standard for construction manager:</i></p> <ul style="list-style-type: none"> <li><i>- theoretically and practically train civil engineering construction managers who can carry out complex contracting work and organise and manage civil engineering works in accordance with legislation and building regulations;</i></li> <li><i>- to organise the study process in such a way as to ensure comprehensive acquisition of theoretical knowledge and skills, which would facilitate students' creative approach to solving professional issues;</i></li> <li><i>- to organise the internship in such a way that the student can consolidate the knowledge acquired in the study courses;</i></li> <li><i>- to ensure that the content of the study programme and the study process are in line with changes in the labour market;</i></li> <li><i>- to develop research skills;</i></li> <li><i>- to ensure the study and practical unity of students and academic staff, to provide the study process with methodological materials and a modern material and technical base;</i></li> <li><i>- to promote the development of the student as a free, responsible and creative individual with the ability to organise and manage work in the construction industry;</i></li> <li><i>- develop students' ability to work in a team, to plan, to coordinate and to manage teamwork, using interpersonal and communicative skills.</i></li> <li><i>- to encourage students to take an interest in projects, project design, implementation and management;</i></li> <li><i>- to motivate students to listen to opinions, to assess situations, to make independent decisions and to take responsibility, to be indulgent and tolerant, and to be psychologically resilient.</i></li> </ul>
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Results of the study programme	<p><i>Upon completion of this program, students must be able to</i></p> <ul style="list-style-type: none"> <li><i>• demonstrate a comprehensive and specialised knowledge and understanding of the facts, theories, patterns and technologies relevant to the professional field.</i></li> <li><i>• perform practical tasks in the profession in an analytical manner, to demonstrate skills that enable creative solutions to professional problems, to discuss and to reasonably debate practical issues and solutions in the profession with colleagues, clients and management, and to learn with an appropriate degree of independence to further develop their competences.</i></li> <li><i>• the ability to evaluate and to improve own and others' performance, work collaboratively with others, plan and organise work in order to carry out specific tasks in the profession, and to carry out or to supervise work activities that are subject to unpredictable change.</i></li> <li><i>• formulate, to describe and to analyse practical problems in their own profession, to select the necessary information and to use it to solve clearly defined problems, to participate in the development of their professional field, to demonstrate an understanding of the place of their profession in the wider social context.</i></li> </ul>
Final examination upon the completion of the study programme	<i>Defense of qualification work (Diploma project).</i>

## Study programme forms

### Full time studies - 3 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>non</i>
Qualification to be obtained (in english)	<i>Engineering Systems Construction Manager</i>

### Places of implementation

Place name	City	Address
Riga Building College	RĪGA	GAIZIŅA IELA 3, LATGALES PRIEKŠPILSĒTA, RĪGA, LV-1050

## 3.1. Indicators Describing the Study Programme

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

The duration of study in the study programme "Engineering Systems" is 3 years full-time, the volume - 120 credit points (CP) (180 ECTS). The study process is organised in 6 semesters and culminates in a qualification work (diploma project).

Distribution by courses:

<u>1</u>	<u>40</u>	<u>CP</u>	<u>2</u>	<u>40</u>	<u>CP</u>	<u>3</u>	<u>40</u>	<u>CP</u>
General study courses	10	CP	General study courses	7	CP	General study courses	4	CP
Industry training courses	28	CP	Industry training courses	19	CP	Industry training courses	14	CP
			Optional courses	1	CP			
Internship	2	CP	Internship	13	CP	Internship	12	CP
						Qualification work	10	CP

In cooperation with the industry and analysing the labour market demand, changes have been made to the study plan of the study programme "Engineering Systems":

- study courses have changed their names;
- study courses have updated content;
- new study courses created.

Courses that have been renamed and/or updated:

Previous title and credit points (CP)	New title and credit points (CP)	Description
Environmental protection 1 CP	Ecology and environmental protection 2 CP	The course of study is supplemented with content on Ecology topics
Economics 2 CP Entrepreneurship 1 CP	Economics, Entrepreneurship 2 CP	Courses have been merged and reduced in size, as economics is taught in depth in secondary school.

Basics of Law 1 CP	Construction regulatory framework 1 CP	The course content emphasises the laws and regulations in the field of construction
Design practice 10 CP	Undergraduate traineeship 10 CP	The course content emphasises the planning of the qualification work (diploma project)

New courses have been added to the Engineering Systems study programme to take account of new developments in industry, science and digitalisation:

Study course	CP	Aim
Psychology of management	2 CP	To provide an understanding of the scope and complexity of the science of management psychology and the ability to observe, diagnose and interpret human behaviour, to apply the theories and methods of management psychology and select appropriate forms of persuasion and social influence to improve performance, change attitudes and avoid conflict escalation, to analyse factors influencing effective and ineffective decision-making and to apply them in applied decision-making.
Energy efficiency in buildings	1 CP	To provide knowledge of methods for calculating and assessing the energy performance of buildings. To teach how to apply energy efficiency technologies and methods.
BIM (Building Information Modelling) Foundation Course	1 CP	To provide a comprehensive overview of innovative technologies in construction, with an emphasis on BIM technologies, related processes, documents and practical activities.
BIM (Building Information Modelling) in construction processes	2 CP	To provide an introduction to Building Information Modelling (BIM): <ul style="list-style-type: none"> <li>• basic technologies and software;</li> <li>• recording construction work on site;</li> <li>• 3D BIM model development,</li> <li>• Using BIM for building operation and management</li> </ul>
Quality assurance in construction	2 CP	To develop an understanding and practical knowledge of the concept of quality and the practical application of quality control, quality as a technical and economic category. Create awareness of: <ul style="list-style-type: none"> <li>• safety and quality standards;</li> <li>• principles, systems and bodies for conformity assessment;</li> <li>• the principles of standardisation in Europe and the Latvian National Quality Programme.</li> </ul>

Innovation and research in construction	1 CP	To provide an understanding of the implementation of research, technology development and demonstration projects; To teach the nature and importance of innovation in the construction sector.
Internship in construction supervision	2 CP	To develop an understanding and practical knowledge of the concept of quality and the practical application of quality control
BIM (Building Information Modelling) for construction projects	2 CP	To give an overview of the application of BIM technology on a real construction site, the processes, documents and practical activities involved: <ul style="list-style-type: none"> <li>• BIM process during construction;</li> <li>• updating and supplementation for 3D BIM models;</li> <li>• 3D BIM conformance to the actual as-built site;</li> <li>• information exchange process during construction works;</li> <li>• recording construction work on site;</li> <li>• creation of executive documentation, comparison with the project model</li> </ul>

Due to the addition of BIM (Building Information Modelling) courses to the study plan, the Information Technology course (1CP) has been removed from the study plan.

From 2020, the College will use the e-learning environment Moodle as well as other digital tools in the study process.

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

The aim of the study program is to prepare specialists corresponding to the needs of the construction industry who carry out the planning and management of the construction of specific engineering systems based on the project documentation, the conditions of the contract for the realization of the construction object and their own experience.

To provide the knowledge necessary for the performance of the main tasks of the professional activity at the level of conception and application in accordance with the occupational standard for construction manager:

- theoretically and practically train civil engineering construction managers who can carry out complex contracting work and organise and manage civil engineering works in accordance with legislation and building regulations;
- to organise the study process in such a way as to ensure comprehensive acquisition of theoretical knowledge and skills, which would facilitate students' creative approach to solving professional issues;

- to organise the internship in such a way that the student can consolidate the knowledge acquired in the study courses;
- to ensure that the content of the study programme and the study process are in line with changes in the labour market;
- to develop research skills;
- to ensure the study and practical unity of students and academic staff, to provide the study process with methodological materials and a modern material and technical base;
- to promote the development of the student as a free, responsible and creative individual with the ability to organise and manage work in the construction industry;
- develop students' ability to work in a team, to plan, to coordinate and to manage teamwork, using interpersonal and communicative skills;
- to encourage students to take an interest in projects, project design, implementation and management;
- to motivate students to listen to opinions, to assess situations, to make independent decisions and to take responsibility, to be indulgent and tolerant, and to be psychologically resilient.

The development and implementation of the study programme follows a logical sequence: the programme's aim and the tasks that follow from it are formulated according to the requirements set out in the professional standard and the labour market demand. The content of the programme (distribution of study courses) is based on the achievement of the objective and study results and the criteria set out in the education standard, linking them to current developments in the labour market and the latest scientific discoveries in the construction industry. The content of study courses is accordingly designed to implement the acquisition of knowledge, skills, competences defined in the professional standard and to ensure the realisation of the aim of the study programme. The content of study courses is discussed and approved in cooperation between the faculty members involved in the study programme, thus ensuring inter-subject coherence and the achievement of common requirements for study outcomes, as well as eliminating unnecessary duplication of content.

The learning outcomes of the study programme are linked to the European Qualification Framework (EQF). The educational credentials awarded for the study programme also include credits according to the European Qualifications Framework (EQF).

Upon completion of this program, students must be able to:

- demonstrate a comprehensive and specialised knowledge and understanding of the facts, theories, patterns and technologies relevant to the professional field;
- perform practical tasks in the profession in an analytical manner, to demonstrate skills that enable creative solutions to professional problems, to discuss and to reasonably debate practical issues and solutions in the profession with colleagues, clients and management, and to learn with an appropriate degree of independence to further develop their competences;
- the ability to evaluate and to improve own and others' performance, work collaboratively with others, plan and organise work in order to carry out specific tasks in the profession, and to carry out or to supervise work activities that are subject to unpredictable change;
- formulate, to describe and to analyse practical problems in their own profession, to select the necessary information and to use it to solve clearly defined problems, to participate in the development of their professional field, to demonstrate an understanding of the place of their profession in the wider social context.

The study program "Engineering Systems" corresponds to the study field "Architecture and Construction" ([code 41582](#) (information available in Latvian only)), in which it is included. The study

programme "Engineering Systems" is aligned with binding regulatory and legal documents. The basic principles and criteria for planning and forecasting of human resources of the construction sector described in the [Development Strategy of the Latvian Construction Sector for 2017-2024](#) (information available in Latvian only).

The establishment, implementation and development of the study programme "Engineering Systems" takes place within the framework of cooperation between RCK, RTU and the Construction Association, sharing of academic, professional and material and technical resources of cooperation partners in the implementation of the programme.

Representatives of all stakeholders (management of Riga Building College, academic staff, employers, graduates and students) have participated in the development of the Riga Building College development strategy, who have made a significant contribution to the definition of the vision for the future and strategic approach. In the course development, both national level higher education and scientific activity policy planning and regional documents have been considered, as well as the current situation in sectors, their potential for development in the future and the trends prevailing in the world scientific space.

The strategic mission of the programmes of the study field "Architecture and Construction" is to prepare high-quality construction specialists for the needs of the Latvian economy, as well as to be a part of the education, research and construction sector of the European Union and other countries of the world, coordinating the provided knowledge, skills and competences with the corresponding requirements of the European Union, the interests of the construction industry and society.

Since the previous accreditation of the study field, the study programme "Engineering Systems" has been improved, considering the demand of the labour market and the development strategy of the Latvian construction industry. The objective and tasks of the study programme "Engineering Systems", as well as the study results obtained during the studies correspond to the fifth level professional qualification (Cabinet Regulation No. 322 "Regulations regarding the Classification of Education in Latvia"), which is a short-cycle professional higher education. The goal, tasks and results to be achieved are mutually coordinated and ensure that graduates of the study programme "Engineering Systems" implemented by Riga Building College will have gained an understanding based on knowledge and critical thinking about the most important concepts, theories and regularities of the construction industry, will be prepared for self-guided performance of professional, innovative or research activities, will be able to assess the impact of their activities on society and will be motivated for personal and professional growth.

The content of the study programme "Engineering Systems" is aligned with the goals, objectives and results to be achieved, as well as is based on the admission requirements specified for applicants – general secondary or secondary vocational education, taking into account the centralised examination assessment in the first foreign language and mathematics. For those persons who have acquired secondary education before 2004 (excluding), as well as for persons who have acquired secondary education abroad or for persons with special needs, on the basis of successful annual marks of the secondary education document, the evaluation of the competition shall be determined according to a special formula for calculating the assessment. Detailed information about [Admission Rules](#) study program "Engineering Systems" is available on the website of Riga Building College.

Characteristics of the study programme by duration and amount of studies:

- Amount in credit points; : 120 CP
- Duration of studies in years: 3 years (full-time studies)
- Degree and/or qualification to be obtained: Construction manager of utilities

- Admission Requirements: Secondary education

The volume of study courses (120 CP) of the study programme "Engineering Systems" is large and the distribution by study years may not exceed 40 CP, therefore the optimal duration of studies is 3 years.

The target audience of the program is the most capable young people, as well as those working in the construction sector in the private and public sectors in Latvia and abroad.

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

The programme prepares managers of construction works of engineering systems who are able to plan the implementation of specific construction projects of engineering systems on the basis of project documentation, conditions of the construction contract, laws and regulations of the Republic of Latvia, Latvian State standards and technical regulations, plan the cooperation of all participants involved in the implementation of the construction project and the order of construction works, check the implementation of works and materials of participants in the implementation of the construction project, take the necessary measures to ensure quality and safety at the construction site, prepare executive documentation of the construction as required by the construction regulations.

The construction sector's share of total value added in the Latvian economy has fluctuated between 5% and 10%, rising sharply in the period after Latvia's accession to the European Union (EU) and then declining as a result of the economic crisis.

[According to Partnership of Latvian Constructors statistical data](#) (information available in Latvian only) Construction is the 7th largest employer among Latvian economic sector. It accounts for around 60 thousand jobs, or 6.4% of the total number of jobs. The sector is highly seasonal, with a difference of up to 10 thousand jobs between summer and winter, which in turn affects the overall unemployment rate in Latvia by around 1 percentage point. Most of the construction workforce (around 27 thousand) is employed in specialised construction activities, such as demolition and site preparation, electrical installation, piping and completion of construction work. Around 22 thousand are employed in building construction, including project development. And 15 thousand jobs are in civil engineering, which includes the construction of roads, railways and urban infrastructure.

[The Development Strategy of the Latvian Construction Sector for 2017-2024](#) (information available in Latvian only) indicates that a qualified human resources are the cornerstone of the development, sustainability and competitiveness of both construction merchants and the entire construction industry. The goal of the industry is highly qualified specialists in every construction profession, from managers, architects, civil engineers to construction workers. In the understanding of the industry, a qualified employee is motivated, wants to belong to the construction industry, has a good theoretical knowledge base that corresponds to world development trends and the ability to apply theory in practice, with an understanding of his professional responsibility.

Today, there are about 70,000 employees in the construction industry, of which 8,500 certified construction specialists (highly qualified specialists and managers) are included in the register of construction specialists.

Construction and the production of construction products is a labor-intensive industry in which the

demand for qualified specialists in competitive market conditions will grow.

In order to meet the needs of the industry for an increase in the number of specialists and the quality of professional qualifications, new competences are also integrated into the engineering knowledge of the construction sector: ICT technologies, smart manufacturing, energy efficiency, passive house construction. The study programme "Engineering Systems" has undergone an update of the study courses, about which the self-assessment is set out in more detail in paragraph 3.1.1 of the self-assessment.

The improvement, development and further direction of the study programme "Engineering Systems" is closely related to the directions of the [NDP 2020-2027 development priorities](#) (information available in Latvian only) "Competitiveness and material well-being of entrepreneurs" and "Quality living environment and territorial development", also including the [Sustainable Development Strategy of Latvia until 2030](#) (information available in Latvian only) in the perspective of long-term innovative and eco-efficient economic development.. The development of human capital and an innovative, digital economy are a prerequisite for increasing Latvia's competitiveness and productivity, and this is among the priorities highlighted is a [modern education system that meets the requirements of the future labour market](#) (information available in Latvian only), which contributes to the transformation of the economy.

As a result of globalisation, an increasingly dynamic labour market demands not only excellent professional knowledge and qualifications, but also good foreign language skills, which are given special attention in the study programme. The study programs "Engineering Systems" are interdisciplinary. It combines the acquisition of construction disciplines with in-depth study of foreign languages, thus preparing students for work in international companies, state and municipal institutions, the private sector.

The program includes a set of professional knowledge, skills, attitudes and competences in demand in the modern laborlabour market, with an emphasis on the acquisition of applied knowledge and professional skills through study projects, qualification work (diploma project), seminars and practical classes, as well as professional practices.

Graduates of the study programme "Engineering Systems" obtain the qualification "Construction Manager of Engineering Systems" and will fill the number of missing places of highly qualified specialists in the construction sector, which is indicated in the demand forecasts of 45% in the [Latvian construction industry development strategy for 2017-2024](#) (information available in Latvian only). Consequently, it can be argued that the employment opportunities of graduates are guaranteed.

Already today, graduates of the study program "Engineering Systems" 100% all work in the field of construction: they are employed both in the private sector and in state and municipal institutions, as well as have started their own business (for example, SIA Pillar Contractor, SIA LAFIVENTS, AS "Rīgas siltums", etc.).

#### **3.1.4. Statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down into different study forms, types, and languages.**

The number of students enrolled in the "Engineering Systems" study programme in the period from



2021/2022 the academic year of 2016/2017 to the present academic year consists of 355 students and the number of graduates is 46.

The decline in the number of students in recent years can be attributed both to demographic trends and to the time of the Covid-19 pandemic. The number of students who left studies in 2019 amounted to 32%, and in 2020 it comprised 38% of students.

In 2021, there was an 11% reduction in the number of students who have completed studies (in 2021 it comprised 27% of students) and during the last 6 years the number of students who have stopped studying 67 comprised 19% of the number of 355 students.

The main reason for the termination of studies (67%) is the failure, which has also been expressed recently by the teaching staff, as a result of dissatisfaction with the low level of motivation of students to study. Remote learning caused by the COVID-19 pandemic is recognised by only 4 % of students and 6 % of students admit their inability to combine work with studies, 22 % of students have had other reasons for dropping out of studies (family circumstances, change of place of residence, etc.).

All students study 100% in Latvian.

Students study with both public and private funding:

- 154 students (43%) with State budget funding;
- 201 students (57%) with private funding.

Statistical data with visualisations are attached as 3\_1\_4\_IS\_Statistics\_on\_students\_enrolled (Annex 5).

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

## **3.2. The Content of Studies and Implementation Thereof**

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

Components and structure of the Engineering Systems study programme:

<b>Parts of the programme</b>	<b>CT</b>
General study courses	21
Industry training courses	61
Optional courses	1
Practice	27
Qualification work	10

The general studies courses provide the acquisition of knowledge appropriate to the short cycle of professional higher education, raise the student's general education level, and provide knowledge and skills in communicative communication and the social sphere.

Compulsory courses of study in a field are common to the field or group of related professions, provide a basic education in the specialty on which the specialisation is based, and provide the opportunity to study the intended specialisation in more depth.

Theoretical studies consist of contact hours and independent studies:

- A contact hour is a form of study that takes place under the guidance of a lecturer. Contact hours make up to 60% of theoretical studies. Contact hours are implemented in the form of lectures, seminars, laboratory work, practical work, course projects. Lectures and seminars are aimed at educating students, while laboratory and practical work, as well as project work, are aimed at independent study and research. The relationship between lectures, practical and laboratory work is determined by the course lecturer.
- During independent studies, the student learns the study material independently (project development - group work, work with literature, information technologies, etc.). Independent studies account for 40% of the course load.

Internship is a form of study organised in different ways: learning the basic principles of civil engineering construction on a real construction site, as well as internships in workshops and on-site internships under the supervision of a certified civil engineering supervisor as an assistant civil engineering supervisor.

At the end of the programme, a qualification work is assessed on a 10-point scale and at the end of which a defence of the qualification work (diploma project) is implemented.

A qualification work (diploma project) is a demonstration of a student's competence for the qualification.

The basic principles for the assessment of short cycle vocational higher education are:

- education is measured by the sum of positive achievements;
- a positive assessment of the mandatory content of the main study programme;
- a set of core requirements for assessing the learning acquired;

- different types of assessment are used to evaluate learning;
- the test provides an opportunity to demonstrate analytical and creative abilities, knowledge, skills and competences in tasks and situations appropriate to all levels of learning.

The content of the examinations is in line with the content of the course syllabuses and the skills and knowledge requirements of the occupational standards.

The degree of achievement of the learning outcomes is assessed on a 10-point system or on a "pass/fail" basis.

The information, deliverables, objectives and other indicators contained in the study courses are consistent and interlinked with the objectives and deliverables of the study programme, as shown in the course mapping of the study programme.

Since the previous accreditation of the study field, the study programme "Engineering Systems" has been updated and improved annually, taking into account the demand of the labour market, scientific trends and the [Development Strategy of the Latvian Construction Industry](#) (information available in Latvian only), which states that a qualified human resource is the cornerstone of the development, sustainability and competitiveness of both construction merchants and the entire construction industry. This coincides with the goal of the study program - to prepare specialists corresponding to the needs of the construction industry, who carry out the planning and management of the construction of specific engineering systems, based on the project documentation, the conditions of the contract for the realization of the construction object and their own experience. The objectives of the study courses and the results to be achieved in the study programme are designed to complement each other and ultimately achieve the common goal of the study programme - to prepare theoretically knowledgeable practically strong construction specialists.

When updating the content of the study program, both the recommendations of specialists of the construction industry and representatives of construction companies, as well as the latest trends in the technologies of execution of construction materials and processes are taken into account.

The information, deliverables, objectives and other indicators contained in the study courses are consistent and interlinked with the objectives and deliverables of the study programme, as shown in the course mapping of the study programme.

The choice of topics in the content of study courses corresponds to the outcomes defined by the study courses - skills and attitudes, knowledge and professional competences.

The programme provides for the acquisition of professional competences, taking into account the development trends of the Latvian, European Union and global labour market, in-demand professions and competences. In addition, the implementation of the study programme provides extensive opportunities for continuing education in the organisation of students' independent work through e-study, thus ensuring equal opportunities for different groups of society.

The study programme is flexible and adaptable to the interests of different students.

**3.2.2. In the case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation. In the case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels (if applicable).**

**3.2.3. Assessment of the study programme including the study course/ module implementation methods by indicating what the methods are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. In the case of a joint study programme, or in case the study programme is implemented in a foreign language or in the form of distance learning, describe in detail the methods used to deliver such a study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

The implementation of the study programme is carried out using various study forms, formal and non-formal education methods and methodological approaches, as well as e-studies for the organisation of students' independent work.

The study programme uses various methods of contact study, including lectures, practical classes, consultations, individual and group work, discussions. In addition to traditional forms of work, interactive study techniques and methods are widely used, which promote analytical, critical, problem-based, systemic and creative thinking, group and team work techniques, applied communication, including intercultural communication, discussion, presentation, etc. development of skills: projects within the course of the study, case and problem analysis, applied research, field trips, analysis of audiovisual material, practical workshops, simulations, competence training by experienced professionals, group work, open lectures, guest lectures by foreign experts, etc.

Practical work and the development of study projects, aimed at integrating theoretical knowledge, research and practice, play an important role in the networking activities. Much attention is paid to students' independent work. The following study methods are also used: competence training, applied games, group work, etc., which are successfully integrated into the study programme's courses. The use of modern technical tools ensures the clarity of theoretical and practical learning. Requirements and methods are chosen according to the content and specificity of the study courses, as well as the organisation of the study process.

The application of various teaching methods in the execution of study courses contributes to the acquisition of cognitive skills, abstract thinking and analytical thinking skills, as well as knowledge and skills used in professional practice.

Study methods have been chosen in such a way as to develop students' ability to work individually and in groups, to solve difficult situations that have arisen on the construction site, to conduct research important for the construction industry, as well as to promote the achievement of the results of the study courses and the goals of the study program.

The aim of using different teaching methods is to maximise the acquisition of cognitive skills, abstract thinking and analytical reasoning, as well as knowledge and skills applicable in professional practice. The studies include an independent work component and contact lessons. The study process in many courses is based on the active integration of information and communication technologies, thus deepening interdisciplinary links. Each member of the teaching staff regularly tests students' knowledge during the course of study, using the forms of testing specified in the course description (control works, coursework, presentations, independent work, etc.). The requirements depend on the specifics of the course and the organisation of the study

process within it. Assessment of knowledge and skills is integrative.

The assessment system for each specific course of study is specified in the course description. The assessment criteria are presented to students at the beginning of each course of study. Examinations and assessments use different forms of assessment: written, text-based or multiple-choice, oral, digital and online, computer-based and web-based, cumulative, which is a form of assessment that takes into account all forms of learner's assessment, with a mark at the end of the course.

The principles of student-centred education are taken into account in the implementation of the study process:

- Students are involved in the process of improving study programmes and the study environment through student surveys. Students participate in surveys, discussions and evaluate the study process, lecturers, administration and relationships. Student surveys are one of the forms of cooperation between the RBC administration and students, in accordance with the Internal Regulations "Procedure for conduct of student survey of Riga Building College for evaluation of the study process". Student surveys are carried out once a year, at the end of each course of study. The surveys provide feedback on the quality of the courses, students' attitudes and satisfaction;
- Students are provided with an individual approach to the study process;
- Students are supported by teaching staff;
- RBC has developed Internal Regulations "[Procedure for submission and consideration of proposals and complaints by the students of Riga Building College](#)", which determine the procedure for students to submit proposals and complaints to the RBC management regarding the implementation of the study process, the working procedure and working hours of the College. Suggestions and complaints may be submitted individually or by groups of students (incl. RBC Student Self-Government), regardless of the study programme or form of study.

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

Students' practical training is regulated by the Law on Vocational Education, Cabinet Regulation on Organisation of Training Internship and Insurance of Persons to be Educated, "[Riga Building College Training Internship Organisation Procedure](#)".

Planning and organising traineeships ensures:

- close and sequential interaction between theoretical and practical learning;
- successively broadening and increasing the complexity of practical skills as you move from one stage of practice to another;
- acquiring a sufficient level of knowledge to start your own business.

Internships in the "Engineering Systems" study programme are organised as follows:

Title	Amount in credit points		Layout					
			Course 1		Course 2		Course 3	
			Semester					
	CP	ECTS	1	2	3	4	5	6
<b>Practice</b>	<b>27</b>	<b>40.5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>2</b>	<b>10</b>
Practice in training workshops	3	4.5	1		1		1	
Geodesy Practice	1	1.5		1				
Traineeship	10	15				10		
Computer aided design	1	1.5					1	
Internship in construction supervision	2	3				2		
BIM in construction	2	3						2
Undergraduate internship	8	12						8

Internships in the study process ensure the implementation of the study programme and the achievement of study results, because the planned study results are related and can be achieved also by implementing internship courses. Due to this, feedback is formed.

To ensure the quality of practices, practice courses have been developed. In each practice course, the implementation goals and planned study results are determined, as well as the characteristics of the organization and tasks of independent work.

As part of the programme, students undertake professional internships outside the university in companies and institutions under the supervision of experienced professionals (for example SIA Pillar Contractor, SIA LAFIVENTS, AS "Rīgas siltums", etc.).

RBC helps to find internships from the information collected by the Internship Department about the internships of previous years, from which good feedback has been received. RBC also encourages students to take an interest and look for their preferred internship, which is very often also the student's place of work.

The mechanism for the implementation of the study programme ensures the achievement of study results, including the principles of acquisition of study courses, student internships and the support provided to students, which is integrated into the content of the study programme. A student can acquire internships by working in construction companies, thus strengthening the knowledge and skills acquired during the study process, and acquiring the necessary skills and competence.

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

**3.2.6. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the marks of the final theses.**

At the end of the Engineering Systems study programme, qualification work (Diploma projects) are developed, and the student is awarded the qualification of engineering systems construction manager. In the qualification work (Diploma project), students design the building's engineering systems.

The qualification work (Diploma project) topics by year and grades are summarised in the table below:

Title	Assessment
<b>Year 2018</b>	
"Utilities project for an office building"	10 (with distinction)
"Utilities project for an industrial building"	9 (excellent)
"Utilities Project for the Rehabilitation of the Laboratory Building"	9 (excellent)
"Project for utilities in the production hall"	9 (excellent)
"Residential building utilities project"	8 (very good)
"Rescue Service Building Utilities Project"	8 (very good)
"Residential building utilities project"	8 (very good)
"Utilities Project for a Psychosocial Assistance Home"	7 (good)
"Utilities Project for Office Building with Café"	9 (excellent)

"Library Utilities Project"	9 (excellent)
"Utilities project for a multi-apartment residential building"	10 (with distinction)
"Utilities project for an industrial building"	8 (very good)
"Office Building with Warehouse Utilities Project"	9 (excellent)
"Polyclinic Utilities Project"	6 (almost good)
"Utilities Project for a Single-Family Residential Building"	9 (excellent)
"Utilities project for a multi-apartment residential building"	8 (very good)
"Utilities project for an industrial building"	7 (good)
"Utilities project for an industrial building"	8 (very good)
"Engineering project for the conversion of a building"	9 (excellent)
"Industrial building with office utilities project"	9 (excellent)
Year 2019	
"Utilities project for a commercial building"	8 (very good)
"School Utilities Project"	8 (very good)
"Office Building Utilities Project"	7 (good)
"Caravan park with café utilities project"	10 (with distinction)
"Utilities project for a commercial building"	8 (very good)
"Service utilities project for a dormitory"	9 (excellent)



"Office Building Utilities Project"	9 (excellent)
"Beauty salon utilities project"	9 (excellent)
"Exhibition Hall Utilities Project"	8 (very good)
"Sports hall utilities project"	8 (very good)
"Project for the utilities of the sports hall"	9 (excellent)
"Car Centre Utilities Project"	8 (very good)
Year 2020	
"Sports hall utilities project"	6 (almost good)
"Utilities project for an office building"	9 (excellent)
"Utilities project for a printing office building"	7 (good)
"Sports hall utilities project"	7 (good)
"Primary School Utilities Project"	7 (good)
"Shopping Centre Utilities Project"	8 (very good)
"Office Building Utilities Project"	7 (good)
Year 2021	
"Restaurant Utilities Project"	6 (almost good)
"Office Building Utilities Project"	8 (very good)
Year 2022	

"Museum Utilities Project"	7 (good)
"Family Recreation Center Utilities Project"	7 (good)
"Sports hall Utilities Project"	8 (very good)
"Fashion house with Cafeteria Utilities Project"	8 (very good)
"Exhibition Center Utilities Project"	7 (good)

Summary of the themes of the qualification work (Diploma projects) (by building type):

<b>2018</b>	<b>20</b>
Administrative buildings	4
Residential buildings	6
Institution buildings	3
Laboratory buildings	1
Industrial buildings	6
<b>2019</b>	<b>12</b>
Administrative buildings	2
Dormitory	1
Institution buildings	1
Sports hall	2
Commercial buildings	6
<b>2020</b>	<b>7</b>
Administrative buildings	3
Institution buildings	1
Sports hall	2
Commercial buildings	1
<b>2021</b>	<b>2</b>
Administrative buildings	1

Commercial buildings	1
<b>2022</b>	<b>5</b>
Residential buildings	1
Institution buildings	1
Sports hall	1
Commercial buildings	2

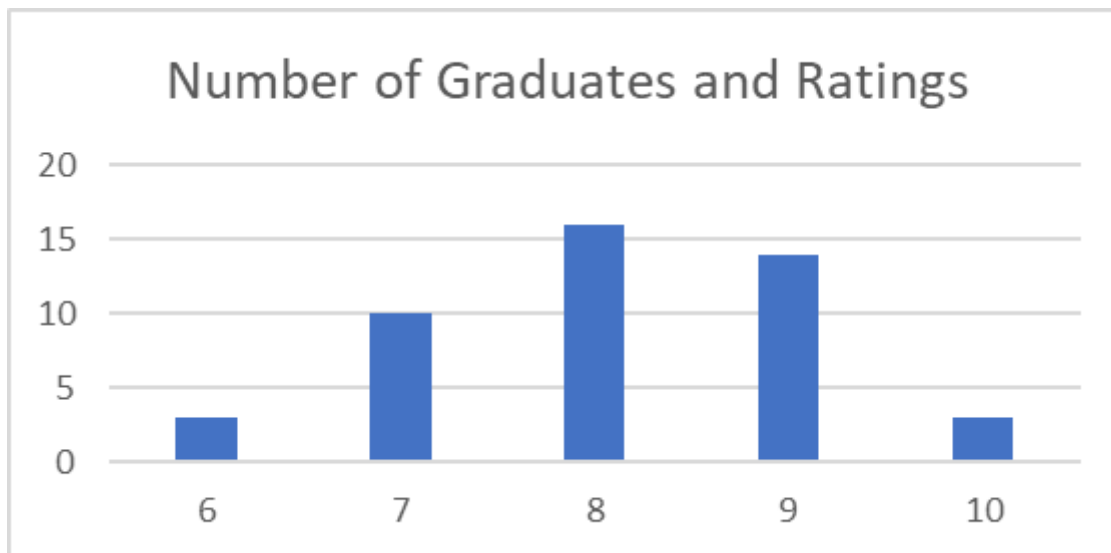
Popular themes are: administrative buildings in 10 qualification work (Diploma project) , commercial buildings in 10 qualification work (Diploma project) and various institutional buildings in 8 qualification work (Diploma project).

Qualification work (Diploma project) marks:

<b>Score (in marks)</b>	<b>Number of candidates for a diploma</b>	<b>Percentage of total number of candidates for a diploma</b>
6	3	7%
7	10	22%
8	16	35%
9	14	30%
10	3	7%

Graduates' thesis evaluation by years:

<b>Year</b>	<b>Number of graduates</b>	<b>Average rating</b>
2018	20	8.45
2019	12	8.42
2020	7	7.29
2021	2	7.00
2022	5	7.40
<b>Total:</b>	<b>46</b>	<b>8.09</b>



The average mark of the qualification work (Diploma project) over the four years of the study programme is mark of 8.09 (72% of all qualification work (Diploma project) are above average).

The construction sector plays an important role in the Latvian economy. Approximately half of the construction volume in Latvia is carried out using public funding. This, in turn, is linked to the acquisition of EU structural funds and mainly includes civil engineering structures (roads, bridges) and buildings of public interest – educational and health institutions, museums, etc. The other half is provided by a private order, which includes the construction of various residential buildings (apartment buildings, private houses) and non-residential buildings (offices, production, trade, hotels, etc.).

According to Partnership of Latvian Constructors statistical data (information available in Latvian only) in 2019, the volume of construction works reached EUR 2.3 billion. Approximately 1/3 or 856 million euros of this is made up of companies whose main activity is the construction of buildings. About 1/3 of the value of all construction works, or 793 million euros, is provided by companies whose main activity is civil engineering. The remaining part is carried out by enterprises engaged in specialized construction work.

In any modern building (newly built or reconstructed) it is necessary to ensure the receipt of water management and heat supply services. In each building, the construction of engineering systems (water supply and sewerage networks, heating networks and ventilation systems) must be carried out. In order to carry out these works, it is necessary to carry out the design of these engineering systems.

Qualification works (diploma projects) are the development of a project of building engineering systems, which, based on indicators of the construction industry, is 1/3 of the total volume of construction (according to the data of 2019).

All qualification works (diploma projects): both administrative buildings, residential buildings and industrial buildings, are useful buildings for the Latvian national economy. A compilation of specific buildings is given in the table on the topics of qualification works (diploma projects) with ratings.

### 3.3. Resources and Provision of the Study Programme

#### 3.3.1. Assessment of the compliance of the resources and provision (study provision,

**scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples.**

The resources and provision of the RBC (study bases, informative bases (including libraries), material and technical bases) comply with the conditions for the implementation of the study programme "Engineering Systems" and for the achievement of study results.

Resources available to students – study rooms, facilities, tools and equipment (for the preparation, combination, integration and visualization of study and research materials), information networks (Internet, intranet, Moodle), databases (library network, free access to databases (database of book resources), materials (research materials, scientific publications, archives), services (administrative, financial, IT and network support services, access to official statistics data), computerized applications and software (MS Office, AutoCAD, Revit, online tools and software for data visualization, online communication tools) allow students to take all the study courses included in the program, as well as conduct research at different stages, provide a flexible and student-oriented environment.

In the implementation of the program, the necessary technical equipment is used (computers with licensed software, overhead projectors, interactive whiteboards, etc.), various teaching methods are used (group work, role-playing games, simulations, seminars, discussions, etc.).

Students and staff have access to and can use the resources available in the library.

The library is a unit of the institution and its main task is to provide the necessary information resources and services for teaching and studying.

Students and teachers of the study program "Engineering Systems" have access to:

- 50 reader workstations;
- 8 computers with wireless internet, 2 scanners, 2 copiers, 2 printers;
- the collection consists of 22,258 items, including books, periodicals and student theses in paper format: Building Science, Engineering Systems, Architecture Year 2018, Restoration Years 1995 – 2018 and Applied Research in Architecture Years 2013 – 2020, in restoration Years 2003 – 2020;
- subscription to Latvian national standards (LVS) applicable to the construction industry;
- journal named "Būvzinieris" is also available online;
- open Research Library, an open access e-book platform offering single access to more than 20,000 open access books published worldwide.

For years 2016 – 2022, the books purchased in the library collection for the acquisition of engineering systems study programmes are 56 books: 27 in English, 10 in Latvian, 18 in German and 1 in Russian.

As a STEM specialisation, the study programme requires smart materials, technologies and engineering systems, which can be studied in a modernised laboratory for testing the properties of construction materials:

- laboratory facilities and equipment for testing the properties of construction materials;
- new hardware suitable for specific software used in the construction sector;
- materials and equipment.

Students of the programme "Engineering Systems" have access to laboratory equipment and teaching stands for their courses:

- welding machine for large polyethylene pipes;
- heating system balancing bench with 10 laboratory works;
- simulation equipment – building air handling, distribution, control stand;
- aerodynamic test bench, with the possibility to maintain, adjust and measure ventilation systems;
- heat loss measurements with an infrared thermography camera and building density (air permeability) testing with a "Blower door" machine with simulator;
- ventilation equipment;
- boiler diagnostics and control case;
- building air permeability detection system with building simulator.

Students and faculty have access to and use of a free Wi-Fi system in all rooms.

Used premises for the realization of the study process:

No.	Name of premises	Quantity
1.	TOTAL AREA OF THE BUILDING 1,484.46 m <sup>2</sup> (excluding dormitories and workshops)	
	Study lecture rooms and laboratories 2,991.66 m <sup>2</sup>	29
1.1.	STUDY LECTURE ROOMS	22
	Geodesy (136)	1
	Computer classrooms (105; 326; 327; 328)	4
	Design (236; 237; 501; 502; 503)	5
	Foreign Languages (401)	1
	Legislative, Environmental Protection (424)	1
	Psychology of Business Relationships (409)	1
	Calculus (304)	2
	Building Economics, Entrepreneurship (306; 308)	2

	Building Construction, Building Mechanics (423; 521)	2
	Construction Technology (102)	1
	Technical Graphics, Descriptive Geometry (423)	1
	Building materials (103)	1
	Engineering networks (107;111)	2
1.2.	STUDY LABORATORIES	6
	Construction Chemistry (310)	1
	Building Physics (320)	1
	Construction materials (008; 010)	2
	Electrical engineering (322)	1
	Engineering networks (104;106)	1
1.3.	STUDY WORKSHOPS	1
	Building Physics (103)	1
1.4.	OTHER ROOMS	24
	Administration offices	13
	Study Department	1
	Library	1
	Methodological Cabinet	1

	Student Self-Government	1
	Assembly Hall	1
	Sports Hall	1
	Gym (semi-basement)	1
	Medical point	1
	Archives	1
	Warehouse	1
	Student canteen	1
2.	DORMITORY	
	Residential premises	124
	Kitchens	9

A detailed assessment of resources and collateral is presented in Part II, chapters 2.3.1 – 2.3.3.

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

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



To ensure the study process, the RCK uses both the state budget grant, its own revenue, and foreign financial assistance.

A detailed assessment of resources and collateral is presented in Part II, Points 2.3.1

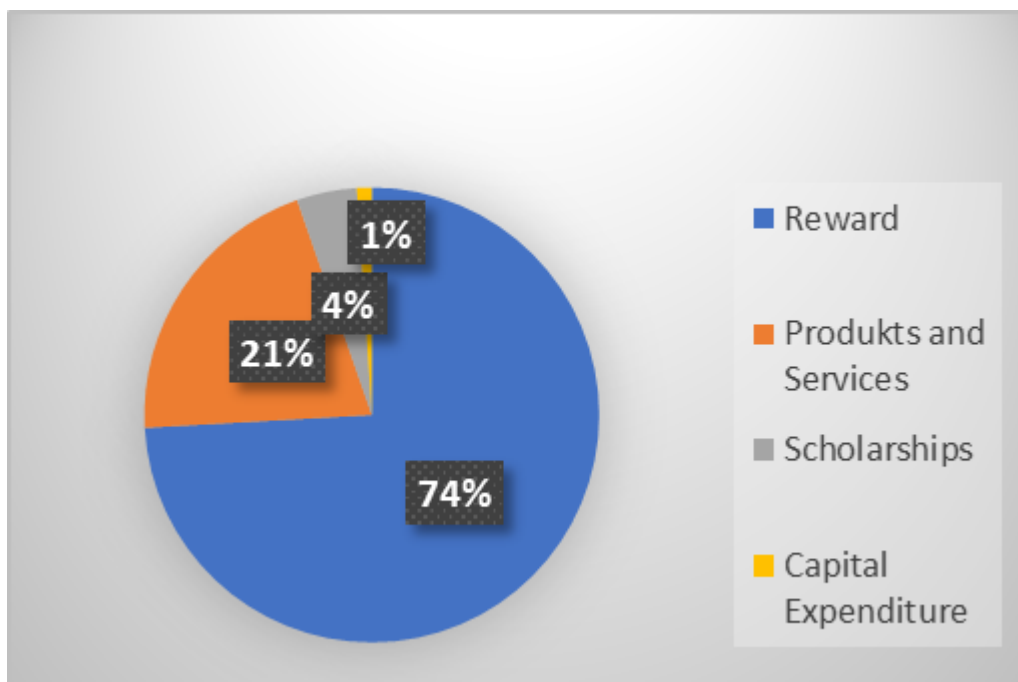
The base costs of a student are determined annually after [12.12.2006 MK 994 "Procedures for Financing Institutions of Higher Education and Colleges from the Funds of the State Budget"](#) , apply the study cost coefficient of the thematic field of education "Engineering sciences" 2.9.

The base cost of one student in 2021 – EUR 1630.11. The social security costs of the place of study are EUR 265.50.

A study Agreement (Annex "[2.1.4. Study Agreements.pdf](#) ") on the acquisition of education in a budget place or for a fee is concluded with each student. The tuition fee in the program "Engineering Systems" is EUR 1600.00 per year.

The sources of financing (revenue) of the study programme "Engineering Systems" are funds allocated by the state (grants by coefficient and budget places) and own revenue. Own revenue consists of tuition fees and other revenue (from dormitory, rent of premises, paperwork, etc.)

Information on the costs per student within the framework of this study programme and the items included in the cost calculation, as well as the percentage distribution of funding between the positions:



Taking into account the variable number of paid students in the program in each year of study (the changing situation of admission and budget places), it is not possible to determine the exact minimum number of students in the study program in order to ensure the profitability of the study program.

Study programmes "Engineering Systems" are cost-effective, because the amount of state budget grants granted each study year and the tuition fee cover the costs of one student.

### 3.4. Teaching Staff

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

The composition of the teaching staff involved in the study programme "Engineering Systems" is relatively stable, but since the previous accreditation of the study programme, there have been changes in both the composition and the numbers of the teaching staff.

The academic qualifications of the lecturers in the study programme "Engineering Systems" are in compliance with the requirements of the normative acts (Augstskolu likumam) in the field of higher education, the specifics of the study programme and the conditions of its implementation, as well as the Riga Construction College Regulations on Academic and Administrative Positions.

18 academic staff members are involved in the implementation of the study programme for the academic year of 2021/2022: 8 docents, 3 lecturers, 5 guest lecturers and 2 assistants.

A list of teaching staff and guest lecturers, indicating their qualifications and the course they teach, is given in the mandatory annex in paragraph 2.3.7. CVs for academic staff and guest lecturers in the Europass format are also attached to this paragraph.

Guest lecturers from Latvia and abroad are also involved in the study process. Guest lecturers from abroad are attracted mainly through Erasmus+ inbound mobility. Additional information can be found in the criteria 2.5.2 - 2.5.3 of Chapter 3 of Part II of the Study Field Self-Assessment Report.

In the academic year 2021/2022, the academic staff consists of 2 lecturers with a doctoral degree (11 % of all lecturers), 13 with a master's degree (72 % of all lecturers) and 3 specialists in the field (17 % of all lecturers).

In order to ensure professional implementation of the study programme courses, representatives of construction companies, building materials manufacturing and trade companies are also attracted as guest lecturers. For example:

- in cooperation with the LATVIAN ROOFERS' ASSOCIATION, which is a group of construction and construction trades, a professional association of the Latvian Chamber of Crafts, guest lectures have been held on roofing, materials and their assembly;
- in cooperation with Saint-Gobain, guest lectures have been held on construction materials, innovative materials, methods of their incorporation, emphasizing the energy efficiency of buildings.

Qualification and professional development of teaching staff helps to achieve study results, therefore RBC encourages teaching staff to systematically improve their competence and share their success with colleagues.

The e-study system Moodle is used in the implementation of the "Engineering Systems" study program. It is regularly improved and supplemented, paying special attention to the activity of teaching staff.

Not all teaching staff are open to working with modern technologies, however, progress has been made and the teaching staff are grateful for the support and opportunities provided to improve the

study process.

Moodle is an invaluable tool for cooperation of study participants, exchange and storage of results, weekly communication and coordination. For faculty, moodle's environment is already becoming commonplace for communicating with students, the course's learning process and didactic provision.

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

The teaching staff of the Engineering Systems study programme has undergone a number of changes – long-standing teaching staff in the field have been replaced by a number of industry professionals and new qualified lecturers:

- Mg. oec., Mg. sc. ing. Marita Strādere – Economics, Business, Business Plan;
- Mg. sc. ing. Juris Kauliņš – General Electrical and Electronics Engineering, Thermophysics of Construction, Hydrodynamics and Aerodynamics, Technical Thermodynamics, Flow Mechanics;
- Bc. arch. Ingars Strazdiņš – Computer graphics (Autocad, Revit), BIM basic course, BIM in construction processes, BIM in construction projects;
- Mg. sc. ing Aivars Pālens – Heating, Ventilation;
- Mg. sc. ing. Jānis Juliks – Quality Assurance in Construction;
- Mg. sc. ing. Inga Roga – Water Supply, Wastewater Disposal, Water Chemistry of Engineering Systems, Gas Supply, Maintenance and Operation of Engineering Systems, Construction Supervision Practice, Undergraduate Practice.

Changes in teaching staff by year:

- In 2019, 2 teaching staff (or 10% of all teaching staff) changed;
- In 2021, 5 teaching staff (or 25% of all teaching staff) changed;
- In 2022, 2 teaching staff joined (or 10% of all teaching staff).

The main reason for the change in the composition of the teaching staff is the achievement of the retirement age of teachers of long-term industry study courses.

In the academic year 2021/2022, the average age of academic staff is 58 years.

The attraction of new teaching staff improves the quality of the courses and provides students with a broader knowledge based on their previous professional experience. For example, a new lecturer Ingars Strazdiņš has been involved to the new training course on the use of BIM in construction processes.

The evaluation of the performance of teachers is carried out by an internal quality evaluation committee on an ongoing and systematic basis, in accordance with the criteria laid down in the internal rules on remuneration:

- conducting applied research;
- participation in seminars, professional development courses, exchange trips;
- participation in international projects;
- creative work, publications;
- methodological work;

- advice for Erasmus students on incoming mobility;
- organising study tours and workshops;
- participation in industry-related bodies.

**3.4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals or peer-reviewed monographs may be additionally specified. Information on the teaching staff included in the database of experts of the Latvian Council of Science in the relevant field of science (total number, name of the lecturer, field of science in which the teaching staff has the status of an expert and expiration date of the Latvian Council of Science expert) (if applicable).**

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

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

Several lecturers are involved in the development and implementation of the course, thus ensuring the integration of science and practice. Lecturers are actively involved in suggesting topics to be added to study courses, issues to be included in qualification works (diploma projects) and research directions, and this mutual cooperation contributes to the quality of study courses both in the development and implementation phases.

Mutual cooperation of lecturers, discussions are organized at meetings of the RBC and meetings of the Department of Construction of the study direction "Engineering Systems".

Meetings of the teaching staff of the study programme shall be organised by the director of the programme at least once a year before the start of the study year.

At least once every 2 months, meetings of the Department of Construction are organized, in which:

- all types of test materials are reviewed;

- the topics and tasks of the qualification works (Diploma projects) are reviewed and accepted;
- the topics and tasks of the courses and study works are reviewed and accepted;
- practice tasks and reports are developed and approved;
- other issues of cooperation between staff have been considered.

Cooperation between teaching staff is fostered through lifelong learning seminars, exchanging new ideas in teaching and research.

The cooperation between the teaching staff is successful and improves the quality of the study programme.

To promote the interconnection of study courses, study programme faculty members discuss topical issues of their own and their colleagues' study course content, coordinate topics, as well as discuss the latest developments in the field of civil engineering systems. Meetings of docents to discuss the preparation of students' research results for publication and the research carried out in their courses.

In the academic year of 2021/2022 the ratio of teaching staff (18) to students (37) is 18:37 or 0.49.

# Annexes

III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme	3_1_2_IS_Diploma.pdf	3_1_2_IS_diploms_ar_pielikumiem.pdf
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period	3_1_4_IS_Statistics_on_students_enrolled.pdf	3_1_4_IS_Statistikas_dati_par_studejosiem.pdf
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with the study programme with the State Education Standard	3_2_1_IS_Compliance_with_the_State_education_standart.pdf	3_2_1_IS_atbilstiba_valsts_izglitiba_standartam.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard or the requirements for professional qualification (if applicable)	3_2_1_IS_Relevance_to_the_professional_standart.pdf	3_2_1_IS_atbilstiba_profesijas_standartam.pdf
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	3_2_1_IS_mapping_of_study_courses.pdf	3_2_1_IS_studiju_kursu_kartejums.pdf
The curriculum of the study programme (for each type and form of the implementation of the study programme)	3_2_1_IS_Full_time_Study_plan.pdf	3_2_1_IS_Studiju_programmas_plans.pdf
Descriptions of the study courses/ modules	3_2_1_IS_Study_courses.pdf	3_2_1_IS_Studiju_kursi.pdf
Description of the organisation of the internship of the students (if applicable)	K11 Procedure for organising study internship Ver.1.0.pdf	K11 Mācību prakses organizēšanas kārtība Ver.1.0.pdf
III - Description of the Study Programme - 3.4. Teaching Staff		
Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		
Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		

# Civil Engineering and Construction (41582)

Study field	<i>Architecture and Construction</i>
ProcedureStudyProgram.Name	<i>Civil Engineering and Construction</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>Inga</i>
Surname of the study programme director	<i>Ķīle</i>
E-mail of the study programme director	<i>inga.kile@rck.lv</i>
Title of the study programme director	<i>Mg.darb.aizs. Maģistra grāds, Darba vides aizsardzība un ekspertīze, LU</i>
Phone of the study programme director	<i>+371 26115488</i>
Goal of the study programme	<i>The purpose of the study programme is to prepare the building site supervisor of buildings professionally, who is able to ensure the quality performance of the construction works in conformity with the construction project, as well as complying with other regulatory enactments regulating construction and technologies for the use of construction products.</i>

Tasks of the study programme	<p><i>To provide the knowledge necessary for the performance of the main tasks of the professional activity at the level of conception and application in accordance with the profession standard for building site supervisor:</i></p> <ol style="list-style-type: none"> <li><i>1. to theoretically and practically train building site supervisor who can carry out complex contracting work and organise and manage construction work in accordance with legislation and building regulations;</i></li> <li><i>2. to organise the study process in such a way as to ensure comprehensive acquisition of theoretical knowledge and skills, which would facilitate students' creative approach to solving professional issues;</i></li> <li><i>3. to organise the internship in such a way that the student can consolidate the knowledge acquired in the study courses;</i></li> <li><i>4. to ensure that the content of the study programme and the study process are in line with changes in the labour market;</i></li> <li><i>5. to develop research skills;</i></li> <li><i>6. to ensure the study and practical unity of students and academic staff, to provide the study process with methodological materials and a modern material and technical base;</i></li> <li><i>7. to promote the development of the student as a free, responsible and creative individual with the ability to organise and manage work in the construction industry;</i></li> <li><i>8. to develop students' ability to work in a team, plan, coordinate and manage teamwork, using interpersonal and communicative skills;</i></li> <li><i>9. to encourage students to take an interest in projects, project design, implementation and management;</i></li> <li><i>10. to motivate students to listen to opinions, assess situations, make independent decisions and take responsibility, ability to be tolerant and psychologically resilient.</i></li> </ol>
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Results of the study programme	<p><b>Knowledge:</b></p> <ol style="list-style-type: none"> <li>1. Is able to demonstrate a detailed understanding and knowledge of the rules, principles, processes, concepts, technologies relevant to the construction industry;</li> <li>2. Based on an analytical approach, is able to understand and perform specific tasks in the field of construction, including finding creative and appropriate solutions to both standard and non-standard situations;</li> <li>3. Understands the key features of construction management, financial, legal and environmental issues and their implications for the successful exercise of professional activities.</li> </ol> <p><b>Skills:</b></p> <ol style="list-style-type: none"> <li>1. Is able to structure, organise and manage construction work using modern methods;</li> <li>2. Is able to apply social integration guidelines to organise teamwork;</li> <li>3. Is able to navigate through a variety of professional information, using Latvian and European legislation in the field of construction, providing quality solutions;</li> <li>4. Is able to communicate and deal with professional construction issues in several EU languages.</li> </ol> <p><b>Competences:</b></p> <ol style="list-style-type: none"> <li>1. Understands the importance of green thinking and sustainable development in construction;</li> <li>2. Is able to analyse, evaluate and resolve deficiencies and errors in the construction process;</li> <li>3. Is able to apply the latest digital solutions in the construction process and motivate oneself to further education.</li> </ol>
Final examination upon the completion of the study programme	Defense of qualification work (Diploma project)

## 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)	non
Qualification to be obtained (in english)	Building Site Supervisor

### Places of implementation

Place name	City	Address
Riga Building College	RĪGA	GAIZIŅA IELA 3, LATGALES PRIEKŠPILSĒTA, RĪGA, LV-1050

### 3.1. Indicators Describing the Study Programme

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

On the basis of a recommendation from the accreditation experts of the previous course of study, the title of the study programme has been changed from Construction to Civil Engineering and Construction.

In accordance with the decision adopted at the meeting of the Tripartite Sub-Council for Professional Education and Employment of August 11, 2021, Minutes No 5, a new occupational standard has been adopted: building construction manager.

Developed under the European Social Fund Operational Programme "Growth and Employment", Specific Support Objective 8.5.2 "Ensuring the relevance of professional education to the European Qualifications Framework" - Project "Improvement of the sectoral qualification system for the development and quality assurance of professional education.

In the study programme "Civil Engineering and Construction" the study process will be organised in 6 semesters, 5 sessions and in the final phase - Defense of qualification work (Diploma project).

1st year	2nd year.	3rd year.
General study courses 11 CP	General study courses 6 CP	General study courses 4 CP
Courses of study in the field 26 CP	Courses of study in the field 22 CP	Courses of study in the field 21 CP
	Free elective courses 1 CP	
Internships 3 CP	Internships 11 CP	Internships 5 CP
		Defense of qualification work (Diploma project) 10 CP

Since the previous accreditation submission in 2016, a new Study Plan has been prepared and will come into force after the accreditation. Content of all courses was reviewed and updated. The titles of several study courses were updated due to the development of study courses and current developments in the construction industry.

Courses that have been renamed and/or updated:

	Previous name	New name
1.	Organisational Psychology 2 CP	Management Psychology 2KP

2.	Environmental protection 1 CP	Ecology* and environmental protection 2 CP
3.	Building standards 1CP	Construction legislation 1 CP
4.	Building Economics 2 CP	Building economics, building costs 2 CP
5.	Site electrical supply 1 CP	Energy provision for the construction site 1 CP
6.	Onboarding internship 1 CP	Introduction to construction processes on site 1 CP
7.	Traineeship 10 CP	Traineeship on construction site 10 CP

\*new part in the Study course

The development of sustainable construction is important for the construction industry. Ecological construction enables a building to preserve the organic environment that surrounds us and is destroyed by chemistry - maintaining the natural balance and reducing the building's impact on the environment.

It is important to analyse and manage the development of the construction sector in order to find ways to live in a more environmentally and health-friendly way, without abandoning the regular amenities and quality standards, but at the same time thinking about the rights of future generations to live in a clean, resource-efficient environment.

Taking these aspects into account, the study programme Construction has been supplemented with the course: Ecology and Environmental Protection (2 CP) - in the 1st year; as well as new study courses included in the study programme related to the digitalisation of construction processes, industry development and innovation.

	<b>Study course</b>	<b>CP</b>	<b>Objective</b>
1.	Energy efficiency in buildings	1 CP	To provide knowledge about methods for calculating and assessing energy efficiency of the buildings; Teaching to apply technologies and methods for improving energy efficiency.
2.	Spatial planning and improvement	1 CP	To create understanding of basics of spatial planning and improvement and their role of construction; Introducing the basic principles of territory improvement in accordance with the function; To build skills to choose appropriate technical solutions.

3.	Renovation and alteration of buildings	2 CP	To promote understanding of the basic structural elements of historic buildings depending on modern material options; To teach independent planning and structural design for buildings of simple function, using computer programmes.
4.	BIM Foundation Course	2 CP	To provide a comprehensive insight into innovative technologies in construction, putting focus on BIM technologies, related processes, documents and practical activities.
5.	BIM in construction processes	4 CP	To provide an introduction to Building Information Modelling (BIM) in basic technologies and software.
6.	Quality assurance in construction	2 CP	To create understanding and provide practical knowledge of quality concepts and practical use of quality control, quality as a technical and economic category; To create understanding of: <ul style="list-style-type: none"> <li>• safety and quality standards;</li> <li>• principles, systems and bodies for conformity assessment;</li> <li>• principles of standardisation in Europe and the Latvian National Quality programme.</li> </ul>
7.	Innovation and research in construction	2 CP	Provide understanding of implementing of research, technology development and demonstration projects; Understanding the nature of innovation and importance for the construction industry.

8.	Laboratory work in building materials	1 CP	Introducing to building material classification, properties, manufacturing process, quality inspection methods and compliance with the implementation of the structural elements of the building in accordance with the Eurocodes and current building regulations; To acquire the ability to make an independent and informed choice of building materials for the construction of a building.
9.	Internship in site supervision	2 CP	To create understanding and provide practical knowledge of quality concepts and practical use of quality control.
10.	BIM on site	3 CP	To give an insight into the application of BIM technologies on a real construction site, related processes, documents and practical activities: <ul style="list-style-type: none"> <li>• BIM process during construction;</li> <li>• Updating and supplementing of 3D BIM models;</li> <li>• Conformity of 3D BIM to the actual asbuilt situation at the site;</li> <li>• Information exchange process during construction works;</li> <li>• Recording construction work on the site;</li> <li>• Development of as-built documentation, comparison with the design model.</li> </ul>

From 2020, the College will use the e-learning environment Moodle, as well as other digital tools in the study process.

Study courses with reduced scope - Economics 2.5 CP -> Economics, Entrepreneurship 2 CP - due to the fact that economics is studied in depth in the secondary school course.

The study course Urban Planning (1 CP) has been replaced by the study course Spatial Planning and Improvement (1 CP).

Following the recommendation of the experts in the previous accreditation of the field of study to reduce the Architectural Design programmes for construction workers and to exclude the architectural design part from the final thesis projects - instead to give a ready-made good quality architectural part of the project to develop the work execution and work organisation parts, the Design internship (10 CP) has been removed from the study programme.

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

The organisation of studies at Riga Building College is in accordance with the Law on Education, the Law on Higher Education Institutions and the Law on Professional Education.

The study programme 41582 "Civil Engineering and Construction" (formerly - Construction) has been implemented at Riga Building College since 2000. Graduates receive a short cycle diploma of professional higher education and obtain the fourth-level qualification "Building Site Supervisor" (profession standard PS-161).

The duration of study in this study programme is 3 years full-time, 120 credit points (CP), 180 ECTS.

**Objectives of the study programme:**

The purpose of the study programme is to prepare the building site supervisor of buildings professionally, who is able to ensure the quality performance of the construction works in conformity with the construction project, as well as complying with other regulatory enactments regulating construction and technologies for the use of construction products.

**Tasks of the Study programme:**

To provide the knowledge necessary for the performance of the main tasks of the professional activity at the level of conception and application in accordance with the profession standard for building site supervisor:

1. to theoretically and practically train construction managers who can carry out complex contracting work and organise and manage construction work in accordance with legislation and building regulations;
2. to organise the study process in such a way as to ensure comprehensive acquisition of theoretical knowledge and skills, which would facilitate students' creative approach to solving professional issues;
3. to organise the internship in such a way that the student can consolidate the knowledge acquired in the study courses;
4. to ensure that the content of the study programme and the study process are in line with changes in the labour market;
5. to develop research skills;
6. to ensure the study and practical unity of students and academic staff, to provide the study process with methodological materials and a modern material and technical base;
7. to promote the development of the student as a free, responsible and creative individual with the ability to organise and manage work in the construction industry;
8. to develop students' ability to work in a team, plan, coordinate and manage teamwork, using interpersonal and communicative skills;
9. to encourage students to take an interest in projects, project design, implementation and management;
10. to motivate students to listen to opinions, assess situations, make independent decisions and

take responsibility, ability to be tolerant and psychologically resilient.

## **Outcomes of the study programme “Civil Engineering and Construction”:**

### **Knowledge:**

- Is able to demonstrate a detailed understanding and knowledge of the rules, principles, processes, concepts, technologies relevant to the construction industry;
- Based on an analytical approach, is able to understand and perform specific tasks in the field of construction, including finding creative and appropriate solutions to both standard and non-standard situations;
- Understands the key features of construction management, financial, legal and environmental issues and their implications for the successful exercise of professional activities.

### **Skills:**

- Is able to structure, organise and manage construction work using modern methods;
- Is able to apply social integration guidelines to organise teamwork;
- Is able to navigate through a variety of professional information, using Latvian and European legislation in the field of construction, providing quality solutions;
- Is able to communicate and deal with professional construction issues in several EU languages.

### **Competences:**

- Understands the importance of green thinking and sustainable development in construction;
- Is able to analyse, evaluate and resolve deficiencies and errors in the construction process;
- Is able to apply the latest digital solutions in the construction process and motivate oneself to further education.

The development and implementation of the study programme follows a logical sequence: the programme's aim and the tasks that follow from it are formulated according to the requirements set out in the professional standard and the labour market demand.

Distribution of study courses is based on the achievement of the objective and study results and the criteria set out in the education standard, linking them to current developments in the labour market and the latest scientific discoveries in the construction industry.

The content of study courses is accordingly designed to implement the acquisition of knowledge, skills, competences defined in the professional standard and to ensure the realisation of the aim of the study programme. The content of study courses is discussed and approved in cooperation between the faculty members involved in the study programme, thus ensuring inter-subject coherence and the achievement of common requirements for study outcomes, as well as eliminating unnecessary duplication of content.

The learning outcomes of the study programme are linked to the European Qualification Framework (EQF). The educational credentials awarded for the study programme also include credits according to the European Qualifications Framework (EQF).

### **Description of the nature of the profession:**

The Building Construction Manager plans, organises and manages construction work in new buildings, buildings to be renovated or reconstructed on the basis of the construction design and the conditions of the contract, and prepares the as-built documentation for the construction work.

Regulation of the profession, additional requirements: Regulated profession, independent practice

in construction requires a certificate of construction practice in the specialty, field of activity. Other profession titles, including in a foreign language: EN: Civil engineering project manager (ISCO), Construction project manager (ISCO).

The acquired qualification of Building construction manager gives the opportunity to continue studies in Latvia University of Agriculture, Faculty of Environmental and Building Sciences, in the approved programme - second level professional higher education study programme "Civil Engineering and Construction" and obtain a professional bachelor's degree in Civil Engineering and a qualification of Civil engineer (Cooperation Agreement signed on August 17, 2022). The study programme is implemented in accordance with the RBC normative documents.

The practical tasks of the programme are carried out in classrooms, laboratories, workshops, computer labs and in e-learning environment.

Using the e-learning environment, courses are directed towards increasing the proportion of continuous study.

The "Civil Engineering and Construction" study programme corresponds to the "Architecture and Construction" course of studies in which it is incorporated.

The mission of study programmes is to prepare high quality construction specialists for the Latvian construction industry, as well as to be a part of the education, research and construction industry of the European Union and other countries around the world.

The objectives and results of studies are mutually agreed and ensure that graduates of the programme will acquire a knowledge and critical understanding of the key concepts, theories and legal relationships of the construction industry, will be prepared for self-directed professional, innovative or research activities, be able to assess the impact of their activities on society and be motivated for personal and professional growth.

The content of studies is aligned with the objectives and achievable results, and is based on the admission requirements for applicants- general secondary or secondary vocational education taking into account the centralised examination assessment in the first foreign language and mathematics.

Detailed information on [Admission regulations](#) is available on the home page of Riga Building college.

The following are added:

- a sample of the Diploma and Diploma Supplement, in accordance with the Cab.Reg. No. 202 (16.04.2013) "Procedures for the Issuance of State Recognition of Higher Education Documents" - 3.1.2. Diploma with Anex Building.pdf

The Diploma Supplement corresponds to the model established by the European Commission, the Council of Europe and the United Nations Educational, Scientific and Cultural Organisation (UNESCO/CEPES). The Diploma Supplement is drawn up to provide objective information and to ensure the academic and professional recognition of evidence of formal qualifications (e.g. diplomas, certificates).

The European Commission (EC) has granted Riga Building college with the European Commission Diploma Supplement Award mark:

- a sample of the Contract of study is attached in the Annex, in accordance with the provisions of Cab.Reg. No.70 ( 23.01.2007) "The mandatory rules to be included in the Contract of study" - 2.1.4. Study Agreements.pdf



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

In recent years, the construction industry has changed its perception, both within the European Union and globally, as a result of the changes that have taken place. New requirements are set for environmental protection, energy efficiency, preservation of cultural heritage and its adaptation to the needs of modern society. Trend is moving towards a sustainable building development model that creates quality living environment for current and future generations, resulting in an increased demand for highly skilled construction professionals.

Skilled human resources are the cornerstone of the development, sustainability and competitiveness of construction companies and the construction sector as a whole. The industry aims for highly skilled professionals in every construction profession, from managers, architects and structural engineers to construction workers. In industry terms, a skilled worker is motivated, willing to be part of the construction industry, with a good theoretical knowledge base in line with global trends and the ability to apply theory in practice, with an understanding of their professional responsibilities. Today, the construction sector employs around 70 000 people, of whom 8 500 certified construction professionals (highly qualified specialists and managers) are listed in the Register of Construction Professionals.

Significant investment is needed in future teachers and internship places. There is a need to create a stronger interest among young people in the construction sector. Young architects and structural engineers need to see a constantly evolving industry, a safe and motivating environment. A high level of labour protection and adequate social guarantees for employees are essential for the development of the sector (Latvian Construction Sector Development Strategy 2017 - 2024).

The opportunities offered by scientific progress in the Latvian construction sector have so far been underutilised. Given the overall demographic trends, including the decline in the economically active population, the only way for the construction sector to survive is to attract an educated labour that is competent in the use of new technologies and materials. This applies to both new recruits and the further training of the existing labour. Technology includes not only practical skills, but also the use of BIM, which allows for more accurate planning and control of the work to be carried out. These measures generally result in improved quality and productivity and more efficient use of labour (Development and Investment Strategy of Riga Building College 2021 - 2027).

RBC graduates are employed in the private sector, in state and local government institutions and have started their own businesses.

The MES study "Employment paths of graduates of higher education institutions in 2019" shows that both (2017 and 2018) graduate data for private and public universities and colleges show a trend that graduates of private higher education institutions establish companies and/or own shares significantly more often than graduates of public higher education institutions. The highest scores among colleges - for RBC graduates.

Data from this survey shows that 6.5% OF RBC graduates founded their companies in 2019, while 5.3% own a stake in a company - <https://www.izm.gov.lv/lv/media/11040/download> (Information in Latvian only).

Income is an important factor when choosing a college-level studies. An analysis of a study

conducted by the Ministry of Education and Science shows that RBC has the highest income among state colleges in the 2019 tax year ( i.e. EUR 19931,- ).

Links with the professional environment are ensured:

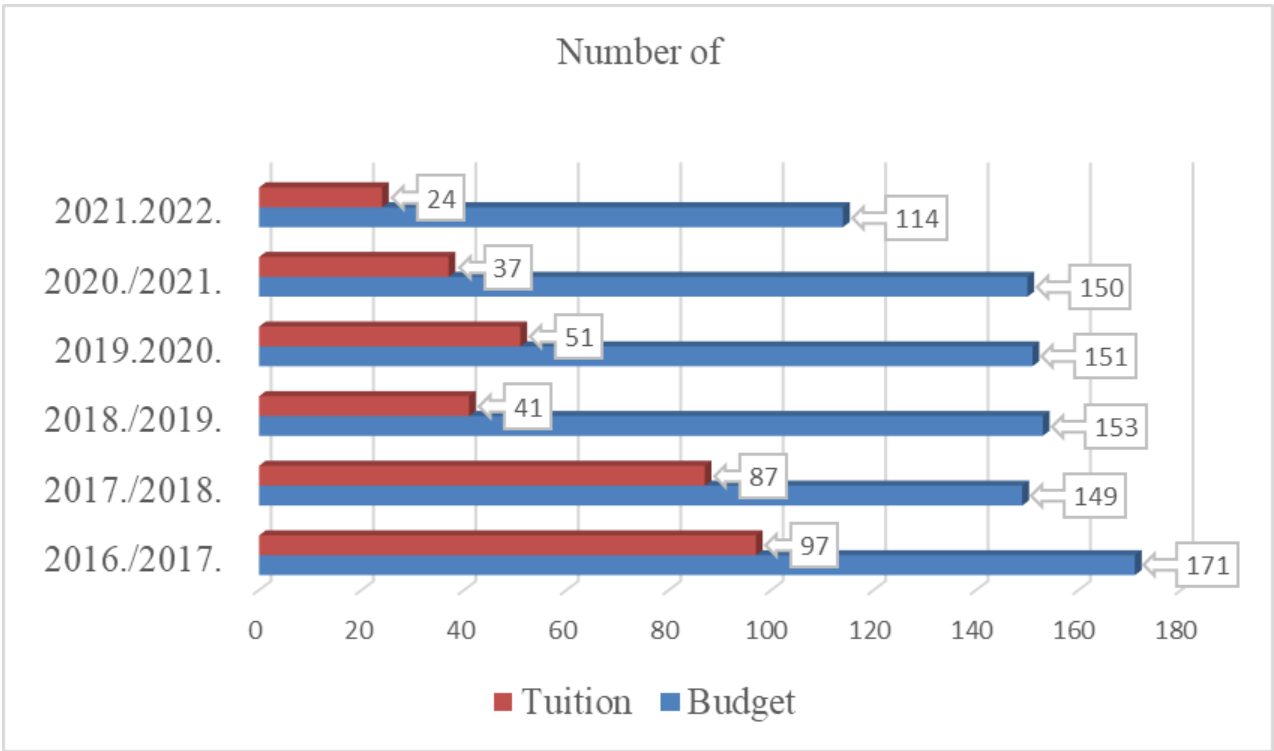
- via RBC graduate mediation;
- active participation of leading lecturers and heads of departments in various professional associations, such as the Union of Civil Engineers;
- involving specialist practitioners in the study process;
- providing internships for students.

Graduate and employer surveys are carried out every year. The surveys ask respondents to evaluate the programme, graduates' knowledge, skills and their relevance to labour market requirements. The responses of graduates and employers to the questionnaire show that there is a stable demand for quality construction professionals in the labour market.

The results of the employer survey are summarised in the Annex 2.2.4. Surveys All.pdf

**3.1.4. Statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down into different study forms, types, and languages.**

During the reporting period (2016 - 2021) 1225 students have studied in the study programme Civil Engineering. 200 students graduated from the College in the reporting period. Enrolment and graduation rates have dropped significantly during the Covid-19 pandemic, although only 6.5% of students acknowledge this as a direct cause. 8.6% of students are unable to combine work and studies.



All students master the study programme 100% in Latvian. Students study with both state budget

and private funding. Students by source of funding during the reporting period: 888 students (72.5 %) financed by the state budget; 337 students (27.5%) funded by natural or legal persons.

During the reporting period, there have been 2 full-time students from abroad (1 student from Istanbul Gelisim University, Turkey in 2016 and the other from VIA University college, Denmark in 2017).

These students, who took a small number of study courses, were provided with a study process in English.

Of the 1225 students, 383 (31%) have left their studies during the reporting period. The main reasons for leaving study are:

- failure - 308 cases, or 80.4%
- inability to connect work with learning - 20 (5.2%)
- family conditions - 18 (4,7%)
- COVID-19 and remote studios - 15 (4%)
- other reasons - 22 (5,7%)

In 2021/2022, compared to other study years in the reporting period, the number of students has fallen. Compared to 2020/2020, it decreased by 27%. The decline in student numbers in recent years has been attributed to both demographic trends and the timing of the COVID-19 pandemic. The number of students has decreased throughout the reporting period and according to student surveys, it is related to the difficulty of combining work with studies and family conditions, etc.

Detailed statistics on students during the reporting period in Annex "3.1.4. Statistical data on students enrolment.pdf".

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

## **3.2. The Content of Studies and Implementation Thereof**

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

Components and structure of the study programme "Civil Engineering and Construction":

- Study courses - 91 CP
- General education courses - 21 CP
- Field of study courses - 69 CP
- Elective - 1 CP
- Internship - 19 CP
- Qualification work (diploma project) - 10 CP

Contact hours - 60%

The compulsory content of short level professional higher education is contained in the following core parts:

- study courses - 93 CP
- study internship outside the educational institution - 17 CP
- qualification work (diploma project) - 10 CP

The compulsory content of short level professional higher education courses consists of:

1. General education courses:
  - humanities - 6 CP
  - social sciences - 5 CP
  - natural sciences, technical sciences and information technology - 10 CP
2. Field of study courses:
  - compulsory courses - 28 CP
  - elective courses - 1 CP
  - profession-specific training courses - 71 CP

The general studies courses provide the acquisition of knowledge appropriate to the short level professional higher education, raise the student's general education level, and provide knowledge and skills in communication and social sphere.

The compulsory courses of the field of study are common to the field or to a group of related professions and provide the basic education in the specialty on which the specialisation subjects are based.

Optional courses in the field provide the opportunity to study the intended specialisation in more depth. Theoretical studies consist of contact hours and independent studies.

A contact hour is a form of study that takes place under the guidance of a lecturer. Contact hours make up 60% of theoretical studies. Contact hours take the form of lectures, seminars, laboratory work, practical work, weekly projects and course projects. Lectures and seminars are aimed at educating students, while laboratory and practical work, as well as project work, are aimed at independent study and research. The relationship between lectures, practical and laboratory work is determined by the course lecturer.

During independent studies, the student masters the study material independently (project development - group work, work with literature, information technologies, etc.). They account for 40% of the course load.

Internships are a form of study that is organised in different ways: Introduction to construction processes on a construction site - learning the basic principles of construction on a real construction site, internships take place in RBC workshops, Traineeship on a construction site under the supervision of a certified construction manager takes place in a construction company as an assistant to the construction manager. At the end of the programme, a qualification thesis (diploma project) is assessed on a 10-point scale and leads to the qualification thesis (diploma project).

The Committee of State Final Examinations is composed of a Chairman and 6 members. The Chairman of the Commission and 3 of its members are representatives of professional organisations or employers in the field and 3 are representatives of academia

A diploma of short cycle higher professional education, which also certifies the fourth level of professional qualification, is awarded to a student who has completed the programme and passed the qualification exam - defending the qualification work (diploma project), obtaining a minimum grade of 4 - "almost average".

The qualification work (diploma project) is a demonstration of a student's competence for a qualification.

Objectives of the qualification work (diploma project):

- to demonstrate professional skills in accordance with the requirements of the profession standard "Building site supervisor" (PS- 161);
- to demonstrate the ability to apply theoretical knowledge to specific tasks in the construction industry;
- demonstrate skills in the design of buildings and their structural elements using modern construction materials and technologies;
- to demonstrate professional competence in the planning and supervision (management) of individual construction projects and the entire building construction project.

The qualification work (diploma project) shall be developed in a planned manner, with each part of the qualification work (diploma project) being developed within the deadlines specified in the schedule approved by the Director of the Study Programme.

According to the timetable, the supervisor and the consultants will schedule the consultation times within the scheduled hours

The progress of the qualification work (diploma project) is monitored by the Director of the Study Programme, together with the project managers and the respective section consultants, through a weekly check of the readiness of the qualification work (diploma project) to meet the timetable.

In the last week of the review, the Director of the Study Programme assesses the readiness of the project and appoints a reviewer by issuing evaluation forms for review and the project manager.

The qualification work (diploma project) supervisor, taking into account the marks of the consultants for the individual parts of the project, shall rate the thesis on a ten-point scale.

After receiving the evaluation of the qualification work (diploma project) supervisor, the student must submit the qualification work (diploma project) (2 files in pdf format - 1. Explanatory statement, 2. Graphic part) for plagiarism check in the College library.

The Unified Computer-based Plagiarism Control System is used to check the final works produced by the students of the College. A work is considered plagiarised if any of its forms is detected and proven.

After receiving a decision from the Unified Computer-based Plagiarism Control System:

- if no plagiarism is detected - the qualification work (diploma project) is handed over to a reviewer;
- if the number and volume of plagiarised passages in the work affect the content of the work, report is submitted to the Director of RBC. (For more details see the Statute of Riga Building College).

The Director of the Study Programme shall appoint reviewers - qualified specialists who are not the

chairpersons of the National Qualification Commission - to review the qualification work (diploma project). The review of the qualification work (diploma project) must be presented to the students at least one day before the defence. No corrections to the work are allowed after the review.

Before the defence of qualification work (diploma project), the graduate shall submit to the Director of the Study Programme the evaluation and review of the qualification work (diploma project) supervisor.

The qualification work (diploma project) consists of a construction design and a works performance project for a public building.

The qualification work (diploma project) consists of an explanatory statement and graphical drawings. The qualification work (diploma project) content:

### **Construction project**

1. General part
  - Documents needed to start construction design
  - description of land plot
  - Engineering survey materials for the land plot
  - Explanatory description
2. Architecture Part
  - general indicators
  - territory part
  - Architectural part
3. Engineering Solutions part
  1. building structures
  2. engineering networks
4. Work organization project
  - a construction work schedule (if requested by the client)
  - a construction work master plan
  - an occupational health and safety plan (may be a separate document)
  - an explanatory description (general and special construction conditions, possible complications, justification of the total duration of the works, key environmental protection measures and recommendations for ensuring quality control on site)
5. Energy efficiency rating for calculated energy efficiency. Energy performance of building envelope structures
6. Economic part. Cost calculation (estimate)
7. References Graphical part of the construction design\*
  - Sheet GP Situation plan. Master plan (scale 1:250; scale 1:500; scale 1:1000) on a topographic plan. Integrated plan of the designed engineering networks (scale 1:250; scale 1:500; scale 1:1000) on a topographic plan
  - Vertical layout of the site. Landscaping and planting plan. Traffic and pedestrian organisation scheme. Technical-economic indicators
  - Sheet AR Roof and floor plans with room dimensions and division into groups of rooms and explanation of uses of groups of rooms, names of rooms. Facades with height elevations, indications of construction products used for facade finishes Specifications for construction products
  - Sheet AR Typical sections with height marks. Plans: foundations, slabs, rafters, roof. Solution of the main building component assemblies (plinth, roof, slab, window, door connection assemblies)\* Sheet BK Working drawings of the calculated structure. Material specifications

- Sheet IR Plan of the building with utilities and heating unit
- Sheet DOP-1 Construction Work Master Plan as part of the Construction Design

### Work Performance Project (WPP)

Introduction. Brief description of the construction site and the design of the works.

1. Tables for drawing up the timetable for the execution of works
2. Description of preparatory work, demarcation work and main period construction work
3. List of specialists required for the works on site
4. Selection of main construction machines, list of technological and assembly equipment
5. Consumption and supply of major materials and structures
6. Technical solutions for occupational health, safety engineering, industrial hygiene and fire safety measures
7. Characteristics of the technological schemes for the works
8. Explanatory statement with tables for the detailed technological scheme
9. Explanatory statement to the Construction Works Master Plan with calculations
10. References

Graphical part of the Work Performance Project

- DVP-1 Timetable. Workforce movement schedule. Timetable for using the mechanisms. Schedule of supply and consumption of materials
- Sheet DVP-2 Technological scheme for three types of work.
- Sheet DVP-3 Detailed Construction Work Master Plan

The basic principles for the assessment of short cycle professional higher education are:

1. the acquired education is measured by the sum of positive achievements;
2. a positive assessment of the mandatory content of the core curricula;
3. a set of basic requirements for assessing the education acquired;
4. uses different types of assessment to evaluate education;
5. the test provides an opportunity to demonstrate analytical and creative abilities, knowledge, skills and competences in tasks and situations appropriate to all levels of learning. The content to be covered by tests is in line with the content of the course programmes and the skills and knowledge requirements of the profession standards.

**Scoring system.** The degree of achievement of the study outcomes is assessed on a 10-point system or on a pass/fail basis.

Level of learning	Rating	Explanation	Approximate ECTS mark
very high	10	with distinction	A
	9	excellent	A
high	8	very good	B
	7	good	C

medium	6	almost good	D
	5	satisfactory	E
	4	almost satisfactory	E/FX
low	3-1	negative rating (unsatisfactory)	Fail

The study courses included in the “Civil Engineering and Construction” programme correspond to the purpose of the study programme. The programme includes all sectoral study courses necessary to implement the standard of occupation of the building supervisor.

The general education courses included in the “Civil Engineering and Construction” programme promote the professional competencies of students, as well as their research and analysis skills.

The courses included in the study programme shall be designed in such a way that the theoretical knowledge acquired can be strengthened in practice and that the results of studies are expected to be achieved.

Updating the content of the study programme both the recommendations of professionals in the construction sector and representatives of construction companies as well as the innovations in the construction sector have been taken in account.

The conformity of the content of studies with the requirements of regulatory enactments, employers' recommendations, labour market needs and technological opportunities are reviewed each year.

The development of the competences of the academic staff is also promoted by providing teaching staff with a motivational and supportive environment: organised infrastructure, e-environment, access to information resources and exchange of experience in cooperation with foreign educational establishments.

Employers' representatives are involved in the National Final Tests Commission and are examined for both the development of the content of studies and the level of preparedness of graduates for the labour market.

In order to improve the efficiency and quality of studies, each year the evaluation of the study programme and the content of study courses take place, to make the necessary changes to the content of the courses, upgrading and updating the content of the course.

While studying changes and spotlights in the labour market, both changes in the content of study courses and new study courses are being created.

**3.2.2. In the case of master’s and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation. In the case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels (if applicable).**



**3.2.3. Assessment of the study programme including the study course/ module implementation methods by indicating what the methods are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study programme. In the case of a joint study programme, or in case the study programme is implemented in a foreign language or in the form of distance learning, describe in detail the methods used to deliver such a study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

In the course of the study programme implementation, both classical training methods - lectures, seminars, practical classes, laboratory work, individual and group work, independent work, and distance learning methods are used:

- Zoom - for teamwork, lectures;
- MS Teams - for management and lecturer meetings, seminars, lectures;
- Kahoot - questionnaires and exercises to test one's knowledge;
- Canva - for visualising information and creative expression;
- Trello - for work planning.

Lecturers also provide individual consultations both in person and via the internet, via email, WhatsApp, Telegram, Skype, Dropbox, Zoom, MS Teams, etc., including in the [RBC e-environment on the Moodle platform](#) (Moodle has multilingual interface. Every user can choose interface language). Both lecturers and students have access to the RBC e-learning environment with their own password.

Lectures are the basic method of theoretical preparation for students, aiming to provide a foundation of knowledge, skills and competences by focusing on the most important issues. This method is most effective in courses where students find it difficult to study the course independently (Higher Mathematics, Building Mechanics, Building Structures).

In the introductory lectures of all study courses, students are provided with information on the teaching methods and forms of assessment of the respective study course and the requirements for the acquisition of credit points.

Guest lectures on current issues in the construction industry are organised as part of the course.

Workshops are held to deepen and consolidate the knowledge acquired in lectures. Independent work encourages mastering of study and scientific literature, creates study material searching skills, generalisation and presentation skills.

The aim of the practical sessions is to learn and consolidate problem-solving and calculation skills.

Internships are aimed at acquiring and developing practical skills, deepening and consolidating knowledge, skills and competences.

The aim of the laboratory work (in building materials) is to introduce the classification, properties, production process, quality inspection methods and compliance of building materials with the requirements of the Eurocode and current building regulations. Students acquire knowledge of the technical characteristics, composition, classification and conformity assessment techniques of different building materials, manufacturer's certificates and declared warranties.

Study methods are chosen to develop students' ability to work individually and in groups, to solve complex situations on construction sites, and to carry out research relevant to the construction

industry.

The construction sectors demand professionals who are able to use advanced modern technologies. In addition to traditional professional skills, modern professional education is unthinkable without skills and understanding of current and future processes, including digital skills, Building Information Modelling (BIM).

Study courses have been developed to teach BIM skills: BIM Foundation Course, BIM in Construction Processes and BIM on Site.

For each study course, there is a course description, defined objectives, as well as teaching methods and tools for acquiring specific knowledge, skills and competences.

The RBC uses the e-learning environment Moodle, where students have access to the materials they need to master their study courses:

- Materials and lectures suitable for distance learning;
- Tasks and tests;
- Tasks of the defense of qualification( diploma project);
- Methodological materials for formatting of diploma project;
- Methodological material for the defense of qualification( diploma project) sections;
- Defense of qualification( diploma project) forms;
- Study course lectures, methodological materials;
- Study course evaluations.

The following mechanisms ensure the implementation of the quality management system:

- student surveys (questionnaires) and analysis;
- staff questionnaires and analysis;
- internal quality audits;
- annual self-assessment of study programmes;
- the work of the Quality Management Group;
- graduate surveys;
- Employers' assessment;
- assessment of external accreditations.

The principles of student-centred education are taken into account in the implementation of the study process:

- Students are involved in the process of improving study programmes and the study environment through student surveys. Students participate in surveys, discussions and evaluate the study process, lecturers, administration and relationships. Student surveys are one of the forms of cooperation between the RBC administration and students, in accordance with the Internal Regulations "Procedure for conduct of student survey of Riga Building College for evaluation of the study process". Student surveys are carried out once a year, at the end of each course of study. The surveys provide feedback on the quality of the courses, students' attitudes and satisfaction;
- Students are provided with an individual approach to the study process;
- Students are supported by teaching staff;
- RBC has developed Internal Regulations "Procedure for submission and consideration of proposals and complaints by the students of Riga Building College", which determine the procedure for students to submit proposals and complaints to the RBC management regarding the implementation of the study process, the working procedure and working hours of the College. Suggestions and complaints may be submitted individually or by groups of

students (incl. RBC Student Self-Government), regardless of the study programme or form of study.

The use of different learning methods in the implementation of study courses facilitates learning of cognitive skills, abstract thinking and analytical thinking, as well as knowledge and skills to be applied in professional practice.

Study methods have been chosen in such a way as to develop the skill of students to work individually and in groups, to solve complex situations that have arisen on the construction site, to perform studies important to the construction sector, as well as to promote achievement of study course results and study programme objectives.

Studios include a part of the students' own work and contact classes. The study process in many courses is based on active integration of information and communication technologies, thus deepening the interdisciplinary link.

Each teacher shall regularly check the knowledge of students within the scope of the course, using the types of examinations indicated in the course description (checklists, course jobs, presentations, standalones, etc.) The requirements depend on the specific nature of the study course and the organisation of the study process therein.

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

The internship is regulated by the internal regulations "[Procedure for organising study internship of Riga Building College](#)".

Planning and organising internship ensures:

- Close and sequential interaction between theoretical and practical learning;
- expansion and increase in complexity of practical skills as the person moves from one stage of internship to another;
- Acquiring a sufficient level of knowledge to start one's own business.

Internships in the College study programme "Construction" are organised in different ways:

- Introduction to construction processes on site - learning the basic principles of construction on a real construction site;
- Laboratory work in building materials takes place in the Building Material Laboratory of the College; Welding practice takes place in the RBC Welding Workshop;
- The geodesy practice takes place in various locations in Riga;
- Site supervision internship take place in construction companies throughout Latvia under the supervision of a certified site supervisor;
- BIM internship on site take place in construction companies throughout Latvia under the supervision of a certified site supervisor;

- Traineeship on construction sites takes place under the supervision of a certified construction manager in a construction company as an assistant construction manager.

A study course programme with study objectives, planned results and tasks to be performed in practice has been developed for each practice.

For example, a course of practice studies: introduction to construction processes on a construction site, designed to make a real site a major research site for students. During the practice, students become acquainted with construction participants and real working conditions in potential workplaces: carry out research on the normative base of the construction sector, construction progress.

After visiting the building site, students write a report on the organisation of construction and progress of construction work. Reports present to group.

The tasks of the traineeships are very closely related to the study results to be achieved in the study programme. The main task of the building construction manager is to implement the building design. Already in course 1 practice: "introduction to Construction processes on a Building site," students "main research facility is a real construction site. At the end of course 2, students go into practice: "traineeship practice on a construction site" (10 CP), during which in-depth research and analysis of construction work is performed in the real construction of a construction object. During this practice the objective of both the practice and study programme is achieved - students acquire the necessary skills of the construction work manager in construction undertakings, in conformity with the standard of the profession of building site supervisor.

The traineeships on construction sites programme has a calendar plan developed with tasks for each week of the traineeship. Students are given a practical research assignment related to productivity and norming in construction. As the internship programme is based on the Construction Law and Latvian Building Standards, it is reviewed and adjusted in accordance with changes in Latvian Building Standards.

Internship	CP	1st year		2nd year		3rd year	
Introduction to construction processes on site	1	1					
Laboratory work in building materials	1		1				
Geodesy internship	1		1				
Welding practice	1			1			
Internship in site supervision	2						2
BIM on site	3						3
Traineeships on construction sites	10				10		

In the practice of traineeships on a construction site, students trainee with experienced building site supervisors as assistants to the building site supervisors. Our student traineeships are both the

largest Latvian construction firms and small construction firms:

SIA "Abora", SIA "Marels Būve", SIA "Rīgas Namu pārvaldnieks", SIA "Ogres Namsaimnieks", SIA "Newcom Construction", SIA "RS Property", SIA "Būvfirma INBUV", SIA "Nēguss", SIA LIMK, SIA "Alfs Construction", SIA INUTA, SIA "GeoConsultants", SIA "Būvuzraugi LV", SIA "MONUM", SIA "SAFE GROUP", SIA "Tilpums", SIA "Arena Sports", A/S "BMGS", SIA "RERE Meistari", SIA "Energoremonts Rīga", SIA "Būvdarbu sistēmas", VAS "Valsts nekustamie īpašumi", SIA "Elektronika - serviss", SIA "IZITIEK", SIA "ROTOLO", SIA "MESAKO", SIA "Hatter", SIA "Koger vide", SIA "Skonto Būve", SIA "Skonto Construction", Būvfirma "NR", SIA "IMRE" etc.

Due to the lack of both building construction managers and other middle-level specialists in the construction sector, RBC students have no difficulty finding internships, as well as the RBC's practice arm helps students find internships.

### **Organisational issues of the internship**

The Internship Department prepares the internship timetable in accordance with the overall study plan. The amount and duration of the internship shall be determined in the study timetable in accordance with the qualification requirements, taking into account the interrelation of theoretical and practical knowledge.

The trainee must comply with the company's internal rules and safety requirements. If the student is employed in a paid job during the internship, he/she is subject to the applicable labour law and social security requirements. Work in a paid position during the qualification internship period 104 counts towards length of service.

A group of students working on internship outside the College is assigned an internship supervisor - a lecturer of professional subjects. The Internship supervisor from College shall:

- develop topics for individual assignments, check their completion, advise on technology matters;
- ensure the rational organisation of students' internship work and their living conditions during the internship, and organise post-work counselling at the College;
- assess students' completion of their internship programme and individual assignments.

At the end of the internship, students submit to the Internship supervisor a report on the internship, the internship diary and a questionnaire - feedback from the internship site.

### **Internship agreements**

Internships outside the RBC workshops are covered by tripartite internship agreements - RBC, student, internship site. Internship contracts are registered and kept in the RBC Internship Department.

### **Internship assessments**

The internship grades are part of the overall pass mark. The internship supervisor marks the internship report and diary submitted by the student, assessing:

- performance of the individual task;
- independent work;
- characteristics given by the internship site.

The assessment of the internship after the defence of the internship report is recorded in the protocol of the internship, the student's report card and the study card.

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

### 3.2.6. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the marks of the final theses.

Upon graduation from the Civil Engineering and Construction programme of the College, students are required to develop a qualification work (diploma project), which leads to the qualification of Building Site Supervisor. In the qualification work (Diploma project) students design a public building. The construction sector has seen a wide variety of construction designs over the last 10 years. The themes of the public buildings in the graduation projects are just as varied.

#### Summary of the qualification work (Diploma project) topics in the reporting period

↓ Topics	2016	2017	2018	2019	2020	2021	Total
<b>Graduates→</b>	<b>36</b>	<b>35</b>	<b>59</b>	<b>29</b>	<b>23</b>	<b>18</b>	<b>200</b>
Administration building		2					2
Recreational centre (house, complex)		1	1		1		3
Camping with café and public service centre			1				1
Car spare parts shop				1			1
Car salon (centre, service)		1	1	1			3
Driving school		1					1
Doctors' private practice		1					1
Child Development Centre			1				1
Library	3						3
Office building(s) (centre)	8	7	16	11	4	11	57
Bowling Hall			1				1
CSDD building			1				1
Hostel			1				1

Hotel, Motel	1		1	1			3
Interest Centre					1		1
Education centre (institution)			1		2		3
Exhibition Hall (House)	1		1	4			6
Creativity Centre			1		1		2
Cinema	1	2	1			1	5
Customer service centre		1					1
Club	1			1			2
Training Centre		3	1				4
Art Centre (gallery)			1		1	1	3
Art School			1				1
Motorcycle school					1		1
Music School		1			1		2
Primary school	2						2
Nursing home	1						1
Pre-school educational establishment	2		2				4
Polyclinic	1	1		1			3
Restaurant		1		1	1		3
Community Centre		1					1
Elementary school			2				2
Beauty salon			1				1
Social care centre				1	1		2
Sports centre (complex, hall, gym)	4	3	5	1	2	2	17
Sports equipment hire shop			1				1
Student Corporation House					1		1
Equipment showroom, warehouse				1			1

Commercial building (centre)	1		2	1	1		5
Shop and office building	2	4	1	1	1		9
Hotel	3	2	6	2		2	15
Guest house (cottage)	5	1	7	1	3	1	18
Gymnastics (fitness) centre		1	1				2
VUGD depot					1		1
Dental building		1					1

Many people spend most of the day in offices, meeting rooms, individual offices or open-plan spaces. Of course, they want to work in a pleasant and productive atmosphere. And office buildings are always a mirror of company culture. Office building was chosen as the subject of the diploma project by the overwhelming majority of graduates - 57.

The popularity of guest house construction has also increased significantly in recent years, which is also evident in the work of our diploma students (18 diploma projects).

Popular themes are Sports centres, complexes, halls - 17 diploma projects, Hotels - 15 and Shops - 9.

The construction sector plays a significant role in the national economy of Latvia – its share by value added reaches 5.9%; it accounts for 6,4% of the total number of jobs; its contribution to Latvia's budget is 2.3% of all tax revenue.

According to [latvijasbuvnieki.lv](http://latvijasbuvnieki.lv) portal's 2019 data (information in Latvian only), about half of the construction volume in Latvia is carried out using public funding. This in turn is related to the acquisition of EU structural funds and mainly includes engineering structures (roads, bridges) and public-interest buildings – educational and health care institutions, museums, etc. The other half is provided by a private order, which includes the construction of various residential buildings (apartment blocks, private houses) and non-residential buildings (offices, production, trade, hotels, etc.).

It is these themes that are also most popular in college student qualification works (Diploma projects).

The qualification works (Diploma projects) - evaluations (2016 – 2021)

Grade (points)	Number of graduates with such grades	%
4	0	0 %
5	2	1 %
6	8	4 %
7	42	21 %



8	88	44 %
9	45	22,5 %
10	15	7,5 %

In the qualification work (diploma project), the highest mark in the reporting period 10 points (with distinction) was awarded to 7.5% of students (15); 22.5% of students (45) scored 9 (excellent); and 44% (88) scored 8 (very good). The average mark for qualification work (diploma projects) is 8.055 points.

### 3.3. Resources and Provision of the Study Programme

**3.3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples.**

The RBC infrastructure elements such as a canteen, a medical centre, a methodological office, a dormitory, a gym and a fitness centre are available for students and staff. Students and staff can use the free WiFi system in all RBC premises.

#### Library

The library of Riga Building College operates as a unit of the educational institution, it was accredited on May 16, 2017 and granted the status of a library of local interest.

Starting with 2010 the library has joined the national unified library information system and performs library processes within the automated information system SKOLU ALISE.

The main task of the library is to provide the necessary information resources and services for teaching and studying. Total number of reader workstations - 50. The library users have access to 8 computers with wireless internet connection, 2 scanners, 2 copiers, 2 printers.

The library's collection consists of 22258 items, including books, periodicals, and paper dissertations of RBC students: Civil Engineering and Construction, Engineering Systems, Architecture 2018 – 2019, Restoration 1995 – 2018 and Applied Research in Architecture 2013 – 2020, Restoration 2003 – 2020.

8,500 units are available for the Civil Engineering and Construction study programme in the library. From 2016 to 2022 57 books have been purchased for the construction study programme: 12 in Latvian, 18 in German, 27 in English.

The electronic catalogue is available at the addresses below: College library <https://skolas.biblioteka.lv/>

The library subscribes to Latvian National Standards (LVS) relevant to the construction industry -

For RBC educators and students, the journal "Būvinženieris" is now also available online in Latvian: <https://buvinzenierusavieniba.lv/zurnals-buvinzenieris/>, for access to the journal, please contact: biblioteka@rck.lv

Open Research Library, an open access e-book platform [www.openresearchlibrary.org](http://www.openresearchlibrary.org)

The platform offers common access to more than 20 000 open access books published worldwide. The infrastructure is designed to cover the largest collection of peer-reviewed open access books, available to all free of charge and without restrictions.

Digital learning tools:

- New digital learning tool "Roads and Civil Engineering". Teaching tool (Germany), updated and adapted for a Latvian audience.
- "Woodworking technologies"

### **Laboratory for construction materials**

Modernisation of the laboratory for testing the properties of building materials, thus improving the quality of education, providing the Latvian economy with the necessary specialists whose knowledge meets the requirements of the labour market, increasing the number of RBC students, increasing the competitiveness of RBC graduates.

All RBC study programmes at the short cycle professional higher education and professional secondary school, are STEM programmes and correspond to the specialisation area of smart materials, technologies and engineering systems.

Funding - EUR 351 607. Purchased under the project:

- laboratory facilities and equipment for testing the properties of building materials;
- new hardware suitable for specific software used in the construction sector;
- materials and equipment.

A detailed assessment of resources and facilities is presented in Part II, Clause 2.3.1. - 2.3.3.

### **E-media**

The [MOODLE environment](#) is used for the implementation of the study programme. MOODLE is the most accessible e-study solution for users: it can be used from any Internet-capable computer with any of the most popular operating systems (Microsoft Windows, Apple Mac OS, Linux, etc.) and most popular Internet browsers. Students can also use Opera, Safari, Opera Mini, etc. browsers). MOODLE can also be used by connecting from mobile devices, enabling students to train on public transport, cafe, park, school corridor, etc. It has multilingual interface and every user can choose a preferred interface language.

In the Moodle environment, each student of the study Programme has access to study courses, lecture materials, etc., which allow to perform study work independently, receive ratings in his or her e-environment account, communicate with doctors, study members, etc.

All teachers and students are assigned a Microsoft Office 365 account as well.

### **Computer classes and software:**

Students and teachers have access to 4 computer classes with computers equipped with licensed applications and software (Standard Office, AutoCAD, Revit, online data visualization tools, online media, and more).

Computer classes equipped with projectors, interactive boards, SMART screens, etc.).

Facilities available for students and teachers in the Civil Engineering and Construction study programme

Name of premises	Quantity
TOTAL AREA OF THE BUILDING 1,484.46 m2 (excluding dormitories and workshops)	
Study lecture rooms and laboratories 2,991.66 m2	<b>31</b>
STUDY LECTURE ROOMS	24
Geodesy and Road Construction (136)	1
Computer classrooms (105; 324; 325; 326)	4
Design ( 236; 237)	2
Foreign Languages (403; 427)	2
Legislative, Environmental Protection (425)	1
Psychology of Business Relationships (409)	1
Mathematics (304)	1
Building Economics, Entrepreneurship (306; 308)	2
Building Construction, Building Mechanics (423; 527; 426)	3
Construction Technology (102, 423)	2
Technical Graphics, Descriptive Geometry (423)	1
Drawing (501)	1
Building materials (103)	1
Engineering networks (107; 111)	2
STUDY LABORATORIES	7
Construction Chemistry (309)	1
Building Physics (320)	1
Construction materials (004; 005; 006)	3
Electrical engineering (320)	1
Engineering networks (108)	1

OTHER ROOMS	<b>30</b>
Administration offices	19
Study Department	1
Library	1
Methodological Cabinet	1
Student Self-Government	1
Assembly Hall	1
Sports Hall	1
Gym (semi-basement)	1
Medical point	1
Archives	1
Warehouse	1
Student canteen	1
DORMITORY	
Residential premises	124
Kitchens	9

Resources available to students and trainers, including study rooms, materials, technical bases, instruments and equipment (for the preparation, combining, integration and visualisation of study and research materials), information networks (Internet, Moodle), free access to databases (book resource database), materials (research materials, scientific publications, archives), services (administrative, financial, IT and network support services, access to official statistics), computer applications and software (Standard Office, AutoCAD, Revit, online data visualisation tools and software, online means of communication) enable the acquisition of all study courses provided for the programme, as well as research at different stages, provide a flexible and targeted environment.

Detailed assessment of resources and collateral is shown in points 2.3.1 to 2.3.3 of Part II.

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

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

To ensure the study process, the RCK uses both the state budget grant, its own revenue, and foreign financial assistance.

A detailed assessment of resources and collateral is presented in Part II, Points 2.3.1

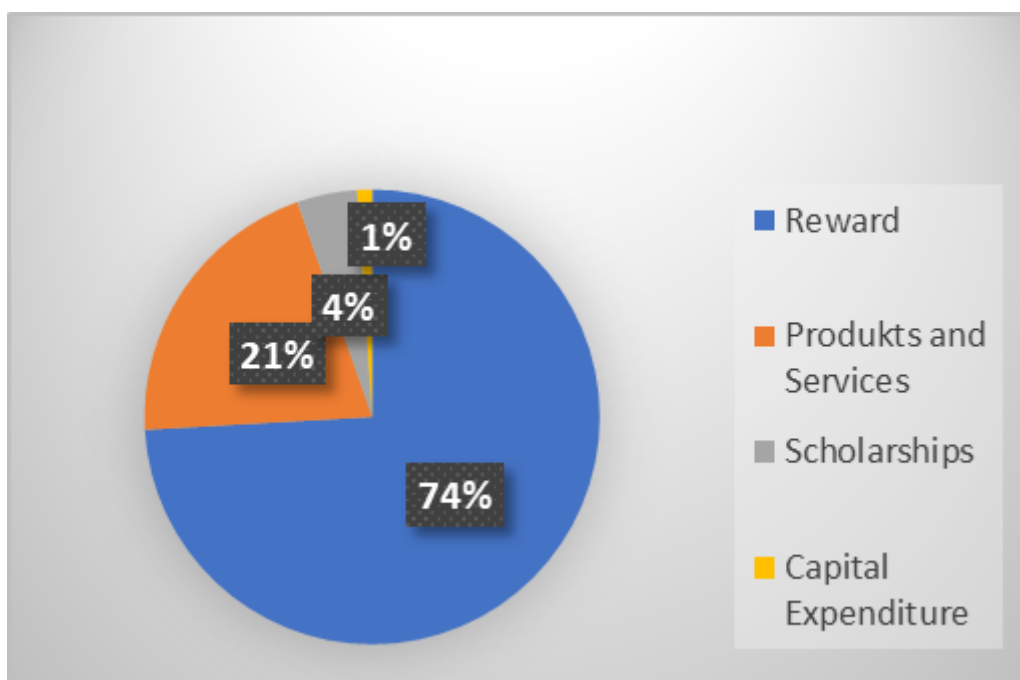
The base costs of a student are determined annually after [12.12.2006 MK 994 "Procedures for Financing Institutions of Higher Education and Colleges from the Funds of the State Budget"](#) , apply the study cost coefficient of the thematic field of education "Construction" 2.9.

The base cost of one student in 2021 – EUR 1630.11. The social security costs of the place of study are EUR 265.50.

A study Agreement (Annex "[2.1.4. Study Agreements.pdf](#) ") on the acquisition of education in a budget place or for a fee is concluded with each student. The tuition fee in the program "Engineering Systems" is EUR 1600.00 per year.

The sources of financing (revenue) of the study programme "Civil Engineering and Construction" are funds allocated by the state (grants by coefficient and budget places) and own revenue. Own revenue consists of tuition fees and other revenue (from dormitory, rent of premises, paperwork, etc.)

Information on the costs per student within the framework of this study programme and the items included in the cost calculation, as well as the percentage distribution of funding between the positions:



Taking into account the variable number of paid students in the program in each year of study (the changing situation of admission and budget places), it is not possible to determine the exact minimum number of students in the study program in order to ensure the profitability of the study program.

Study programmes "Civil Engineering and Construction" are cost-effective, because the amount of state budget grants granted each study year and the tuition fee cover the costs of one student.

### 3.4. Teaching Staff

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

The qualitative composition of the docents working in the study programme complies with the Law on Higher Education Institutions. The qualifications of the academic staff are in accordance with the specifics of the study programme and the conditions of its implementation, the requirements of the regulatory enactments in the field of education, as well as the [Regulations on Academic and Administrative Positions of Riga Building College](#).

28 teaching staff (of which 22 academic staff representatives) members are involved in the implementation of the study programme in 2021/2022. Guest lecturers from Latvia and abroad are also involved in the study process. Guest lecturers from construction companies, building materials manufacturers and distributors are used to ensure professional delivery of the study courses.

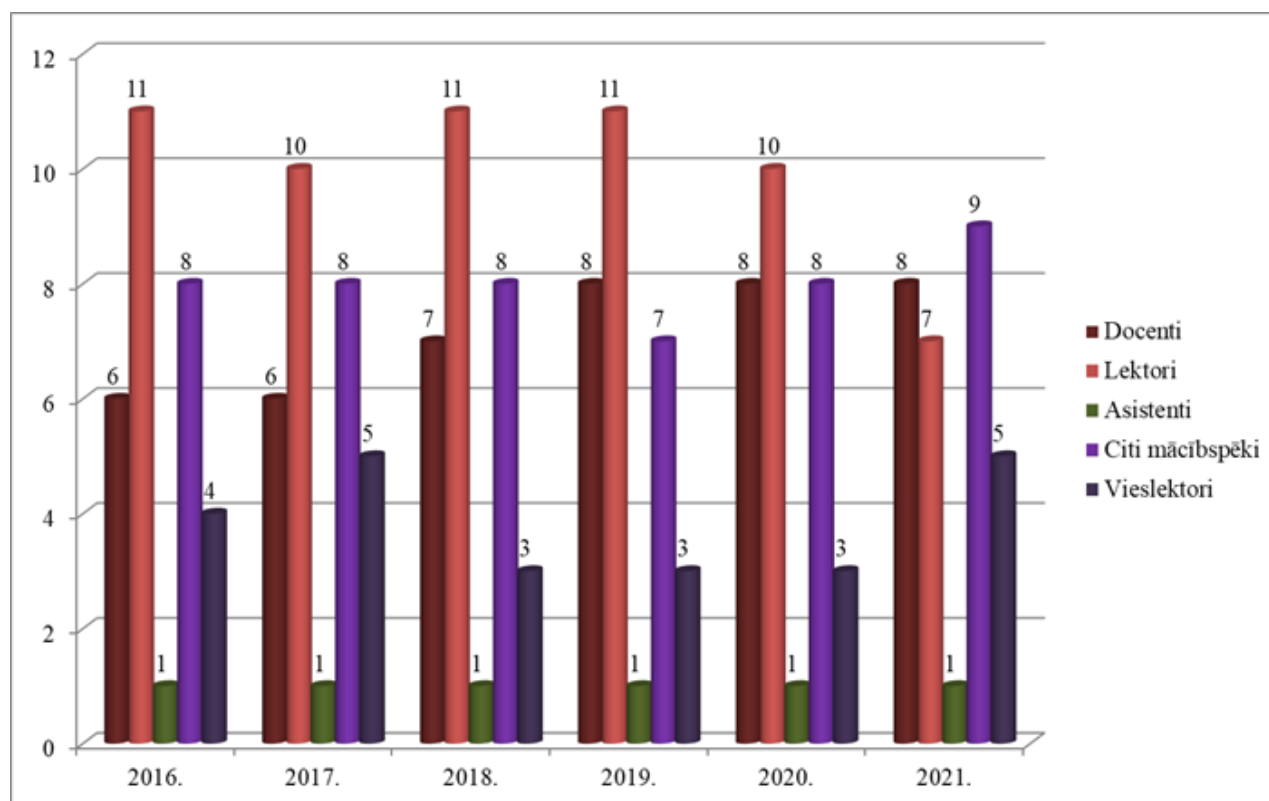
Academic staff consists of: docents (13), lecturers (4), assistants (4)

	2016	2017	2018	2019	2020	2021
Docents	6	6	7	8	8	13
Lecturers	11	10	11	11	10	4
Assistants	1	1	1	1	1	4
Other teaching staf	8	8	8	7	8	2
Guest lecturers	4	5	3	3	3	5

The academic staff involved in the implementation of the study programme 4 shall have a doctorate degree, 14 with a master's degree and professional experience in the sector, according to the study course. In order to ensure professional implementation of study programme courses,

representatives of construction companies, construction materials manufacturing and commercial enterprises are also attracted as guest speakers. For example: in co-operation with the Latvian Association of Roofers, which is the Construction and Construction trades Group, a professional association of the Latvian Chamber of Crafts, guest lectures have been held regarding roofing, materials and the assembly thereof; in cooperation with Saint-Gobain, guest lectures have been held on building materials, innovative materials, methods of incorporation thereof, emphasising energy efficiency of buildings.

Guest speakers from Latvia and abroad are also involved in the study process. Guest speakers from abroad are mainly attracted to Erasmus inbound mobility. Additional information can be found in criteria 2.5.2 to 2.5.3 of Chapter 3 of Part II of the study direction self-assessment report.



- College teachers engage in both professional and pedagogical qualification;
- each year, the college management organizes at least 1-3 guest lecture, a seminar for college doctors on the state of the art of the construction industry and improvement of at least 1 - 3 pedagogical competence;
- at least a 1-2 experience exchange tour for all employees to an up-to-date construction site;
- Each year the director of the study programme organises a review of 1-5 current construction objects;
- Each year, the Deputy Director of studies and Research offers teachers the opportunity to lecture Erasmus students at our collaborative universities in Europe;
- Each year, the college organizes training in using innovative e-tools, learning the e-environment;
- Individual consultations for the development and development of study courses are regularly organised, as well as regular individual consultations for improving the use of e-media.

A list of academic staff and guest lecturers, indicating their qualifications and the courses they teach, is given in Annex "2.3.7. List of teaching staff involved in the implementation of the study programme". CVs of academic staff and guest lecturers in Europass format are attached in Annex

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

During the reporting period, there have been a number of changes of teaching staff. Long-serving study course lecturers in the field have left the RBC. These have been replaced by a number of professionals working in the field and new qualified docents:

- Mg. oec., Mg. sc. ing. Marita Strādere - Economics, Business, Business Plans;
- Mg. sc. ing. Juris Kauliņš - General Electrical Engineering, Building Physics, Energy Efficiency of Buildings, Energy provision for the construction site;
- Mg. sc. ing. Elīna Barone - Building Mechanics;
- Dr. arch., Mg. arch. Evita Zavadska - Spatial planning and improvement;
- Bc. arch. Ingars Strazdiņš - Computer Graphics (Autcad, Revit), BIM basic course, BIM in construction processes, BIM on construction site;
- Mg. sc. ing Aivars Pālens - Engineering networks;
- Mg. sc. ing Ilmārs Gorda - Roads and Bridges;
- Mg. sc. ing Jānis Juliks - Quality Assurance in Construction;
- Mg. sc. ing Rihards Ābols - Internship in site supervision;
- Dr. sc. ing. Linda Krāģe - Laboratory work in building materials;
- Mg. chem. Ligita Rožlapa - Laboratory work in building materials.

Attraction of new teachers in most cases is related to retirement of long-term teachers, as well as attraction of new teachers to new study courses. For example, innovative and topical study courses in the study programme have been created in the structure information modelling (BIM), the acquisition of which has attracted new lecturer Ingars Strazdins.

The recruitment of new teaching staff has both improved the quality of the study courses and given students a broader knowledge base, building on their previous professional and academic experience.

The Internal Quality Assessment Committee carries out continuous and systematic performance appraisals of teaching staff in accordance with the criteria laid down in the internal rules on remuneration:

- conducting applied research;
- participation in seminars, professional development courses, exchange trips;
- participation in international projects;
- creative work, publications;
- methodological work;
- consulting for incoming Erasmus students;
- organising study tours and workshops;
- participation in industry-related institutions.

The individual performance indicators of a teacher influence and are linked to the remuneration of the individual.



**3.4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals or peer-reviewed monographs may be additionally specified. Information on the teaching staff included in the database of experts of the Latvian Council of Science in the relevant field of science (total number, name of the lecturer, field of science in which the teaching staff has the status of an expert and expiration date of the Latvian Council of Science expert) (if applicable).**

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

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

To promote the interconnection of study courses, teaching staff of the study programme conduct discussions and debates on topical issues of their own and their colleagues' study course content, coordinating the topics, as well as discuss the latest developments in the construction industry.

Teaching staff cooperation is promoted through lifelong learning seminars, exchange of new ideas in teaching experience and research. Teaching staff are actively involved in suggesting topics to be added to courses, issues to be included in diploma projects and research areas.

The College organises seminars to foster cooperation among lecturers, to develop digital and other competences and to ensure the interconnection of study courses, as well as to learn the latest developments in the construction industry:

- In 2016 - "Special knowledge in the field of child protection", Liepaja University;
- In 2018 - "Options and tools for correcting learners' behaviour", Institute of Social Interests;
- In 2019 - Study course "Digital communication with the state: useful e-solutions in life situations"; MoEPRD project "Measures to promote the use of ICT opportunities by the public;
- In 2019 - Masterclass - BIM or really BIM?, LatBIM;
- In 2020 - Burnout: how to avoid it and mitigate its effects. Latvian Psychological Society;
- In 2021 - Lecture "Foundations of research project in colleges", Latvian Association of

Colleges. T. Jundzis The lecturers of the study programme have work experience in various international projects: EU.

Phare programme "Professional Education 2000" project "Development of a first level professional higher (college) education programme in the construction sector" and the project "Establishment of a structure of professional qualifications" sub-project "Basic principles and procedures for the evaluation of the education acquired by students", EU Lifelong Learning Programme Leonardo da Vinci, Erasmus projects, European Regional Development Fund (ERDF), European Social Fund (ESF), Climate Change Financial Instrument (CCFI) projects.

Meetings of lecturers were organised to discuss the preparation of research results for publication, to prepare a publication plan for the applied research carried out as part of the qualification thesis, as well as for the research carried out in the study courses.

In meetings of study programme doctors organised by the director of the study programme (1 once a month):

- be informed about the latest innovations in the sector and decide which courses of study require changes in relation to them;
- the latest materials of all types of study courses are reviewed;
- topics and tasks of qualification work (diplom project) are reviewed and accepted, changes made;
- study topics and tasks are reviewed and accepted.

During these meetings, as well as individually, in order to facilitate the interconnection of study courses, teachers of the study programme discuss topical issues regarding the content of their study courses and colleague study courses, as well as discuss innovative materials, solutions and technologies in the construction sector. The teachers also analyze the results of studies conducted by students, as well as decide on future research topics and issues.

If in the year of study 2021 / 2022 the total number of students (138) and teaching staff (30) counted together (168) is considered to be 100%, the ratio of teaching 117 staff to students is 18:82

# Annexes

III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme	3.1.2. Diploma Building.pdf	3.1.2. Diploms ar pielikumiem Buvnieciba.pdf
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period	3.1.4. Statistical data on students enrolment.pdf	3.1.4. Statistiskas_dati_par_studejosiem_BUVNIECIBA.pdf
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with the study programme with the State Education Standard	3.2.1. Compliance of the study programme with a national education standard.pdf	3.2.1. Atbilstiba_izglitiba_valsts_standartam_Buvnieciba.pdf
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard or the requirements for professional qualification (if applicable)	3.2.1. Compliance to the professional standard.pdf	3.2.1. Studiju_programmas_BUVNIECIBA_atbilstiba_profesijas_standartam_2022.pdf
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	3.2.1. Mapping of study courses of the study programme.pdf	3.2.1. Studiju_programmas_BUVNIECIBA_studiju_kursu_kartejums.pdf
The curriculum of the study programme (for each type and form of the implementation of the study programme)	3.2.1. Full-time study plan Building.pdf	3.2.1. Studiju_programmas_plans_BUVNIECIBA_2022.pdf
Descriptions of the study courses/ modules	3.2.1. All study courses Building.pdf	3.2.1. Buvnieciba_visi_studiju_kursi_2022.pdf
Description of the organisation of the internship of the students (if applicable)	K11 Procedure for organising study internship Ver.1.0.pdf	K11 Mācību prakses organizēšanas kārtība Ver.1.0.pdf
III - Description of the Study Programme - 3.4. Teaching Staff		
Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		
Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		

# Architectural technology (41581)

Study field	<i>Architecture and Construction</i>
ProcedureStudyProgram.Name	<i>Architectural technology</i>
Education classification code	<i>41581</i>
Type of the study programme	<i>First level professional higher education study programme</i>
Name of the study programme director	<i>Inese</i>
Surname of the study programme director	<i>Reitāle</i>
E-mail of the study programme director	<i>inese.reitale@rck.lv</i>
Title of the study programme director	<i>Mg. arch. Lēmums Nr.142/1171 Pielīdzināta Rīgas Politehniskā institūta diplomā A-I Nr.235112 piešķirtā kvalifikācija profesionālajam maģistra grādam un piektā līmeņa kvalifikācijai</i>
Phone of the study programme director	<i>+371 26539106</i>
Goal of the study programme	<i>The aim of the study programme “Architectural Technology” is to prepare professionals — architectural technologists who, in a team under the guidance of a certified architect, perform various tasks at all stages of the construction design development process, using the latest digitisation technologies and design software for the construction process.</i>
Tasks of the study programme	<i>To prepare professionals with the competence of construction specialists, which is support to the team of employers in the development of the project and digitization of the construction process, BIM modelling.</i>
Results of the study programme	<p><i>Knowledge:</i></p> <ol style="list-style-type: none"> <li><i>1. Be able to demonstrate a comprehensive knowledge of the theories and principles of the construction design process, which is necessary for personal development and continuing education, social integration and civic participation in the development of society</i></li> <li><i>2. A detailed understanding of standard and non-standard situations in the professional field</i></li> <li><i>3. Knowledge of the technologies and methods to perform the job</i></li> </ol> <p><i>Skills:</i></p> <ol style="list-style-type: none"> <li><i>1. Able to structure, organise work, use different methods, software, information and communication technologies to carry out tasks</i></li> <li><i>2. Able to navigate through a variety of information, to find and evaluate the material to be used for the creative performance of professional tasks</i></li> <li><i>3. Able to communicate in several languages, work independently in a profession</i></li> <li><i>4. Able to work collaboratively in a team, further learning and development</i></li> </ol> <p><i>Competences:</i></p> <ol style="list-style-type: none"> <li><i>1. Motivated to continue education, interested in career development</i></li> <li><i>2. Able to work individually and as part of a team, plan, work tasks in the profession</i></li> <li><i>3. Able to take responsibility for the outcome and quality of professional performance</i></li> </ol>
Final examination upon the completion of the study programme	<i>Defense of qualification work (Diploma project).</i>

# Study programme forms

## Full time studies - 3 years - latvian

Study type and form	<i>Full time studies</i>
Duration in full years	<i>3</i>
Duration in month	<i>0</i>
Language	<i>latvian</i>
Amount (CP)	<i>120</i>
Admission requirements (in English)	<i>Secondary education</i>
Degree to be acquired or professional qualification, or degree to be acquired and professional qualification (in english)	<i>non</i>
Qualification to be obtained (in english)	<i>architectural technologist</i>

## Places of implementation

Place name	City	Address
Riga Building College	RĪGA	GAIZIŅA IELA 3, LATGALES PRIEKŠPILSĒTA, RĪGA, LV-1050

### 3.1. Indicators Describing the Study Programme

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

Within the framework of the accreditation process of the field of study "Architecture and Construction" during the pilot accreditation of the ESF project "Support for the EQAR Agency to Meet the Set Requirements" in 2017, the international evaluation commission drew attention of the Riga Building College to the fact that the RBC study programme "Architecture" (according to the standard for the profession of architect's assistant, 2161 02, developed by the RBC in 2010) exceeded the requirements of the Professional Qualification Level 4 (hereinafter referred to as — PQL), requirements, and encouraged the development of the professional standard of "Architectural Technologist" and to change the name of the programme to "Architectural Technology", as well as made recommendations for changes in the content of the programme, including by reducing the number of study courses and including Building Information Modelling (BIM) processes, which would result in the programme fully meeting the requirements of modern construction and PQL 4.

Taking into account the opinion and recommendations of the Expert Committee, the qualification "Assistant Architect" was rightly removed from the Construction Sector Qualifications Framework and replaced by the qualification "Architectural Technologist".

Riga Building College used its own revenues to set up a working group to develop a professional standard "Architectural Technologist", inviting to participate as experts Ms Elīna Rožulapa, Head of the Certification Centre of the Latvian Association of Architects, and architects of the leading Latvian architectural firms: LLC (SIA) "Vizuālās modelēšanas studija", LLC (SIA) "MARK arhitekti", LLC (SIA) "ARHIS ARHITEKTI", respectively, Mr Uldis Balodis, Mr Aleksejs Birjukovs, Mr Raimonds Saulītis, Head of the RBC Department Ms Inese Reitāle and Chair of the Latvian Building Sector Trade Union Ms Ieva Gretere. The professional standard was developed and approved at the meeting of the Tripartite Cooperation Sub-Council for Vocational Education and Employment (PINTSA) on August 14, 2019, Minutes No. 5.

The new study programme "Architectural Technology" has been developed in accordance with the [Riga Building College Development Strategy 2021—2027](#). The development of the study programme is in line with the Riga Building College 2021—2027 strategy — to strengthen smart specialization areas, and thus, in line with the context, the planned activities - to approbate and accredit the new first level vocational higher education study programme.

In the study programme "Architectural Technology", the study process is organized in 3 years, i.e., in six semesters, with five of these semesters closing with examination periods (quizzes and exams), and practical training in design at an architects' office and development of qualification work (diploma project) in the sixth semester.

Programme "Architectural Technology" — qualification Architectural Technologist		
Year 1	Year 2	Year 3

Study courses of general education — 11 CP	Study courses of general education — 6 CP	Study courses of general education — 3 CP
Sectoral study courses — 22 CP	Sectoral study courses — 31 CP	Sectoral study courses — 13 CP
		Optional courses — 1 CP
Practical trainings — 7 CP	Practical trainings — 3 CP	Practical trainings — 11 CP
		Applied research — 2 CP
		Qualification work — 10 CP
Total: 40 CP	Total: 40 CP	Total: 40 CP
<b>120 CP</b>		

**On the changes to the study programme** “Architectural Technology” the professional standard “Architectural technologist”, that have been made since the previous study programme license was issued, the changes concern the regrouping of separate study courses by semesters:

In the study course “Management Psychology and Professional Communication”, the programme is divided from semester 5 into semesters 4 and 5 for a more complete and in-depth study of professional communication.

In the “Freehand Sketching and Modelling” study course, the programme is combined in the 1st year of studies to initially develop and enhance students' skills and spatial thinking. The study course “History of Architecture, Historical Parts of Buildings” is renamed and divided into two separate courses — “History of Architecture”, taught by I. Tambaka, and “Renovation of Historical Buildings, Materials and Structures”, taught by I. Dirveiks, and this course is scheduled for the 3rd semester so that students with already acquired knowledge had a deeper understanding of the renovation of historical buildings.

The study course “Digital Modelling of Architecture” combines three study courses — “Architectural Design and Digital Modelling”, “Landscaping and Transport”, “Historical Values and Technologies”, which include, combine and create a comprehensive knowledge of the given study courses in the field of digital modelling.

The study course “Renovation and Redevelopment of Buildings and Spatial Environment” combines the study courses “Renovation of Architectural and Spatial Environment” and “Renovation and Redevelopment of Buildings”.

The practical training “Introduction to Building Information Modelling” has been renamed to “BIM Fundamentals”, which is more descriptive of the nature of the practical training of study course, and also in the practical training schedule 1 CP is moved from semester 4 to semester 5 in order to ensure better development of the diploma project.

The 1st level professional higher education study programme “Architectural Technology”, professional standard ‘Architectural technologist’ is a new innovative programme whose study courses offer to acquire professional competence of a construction specialist — support to a team of employers in project development and digitization of the construction process. Students learn the

fundamentals of Building Information Modelling (BIM), computer programs, innovative technologies in architecture and construction related to building and site surveying, use of drones and 3D laser scanning in surveying and modelling technologies, the application of new technological solutions in the design, renovation and reconstruction of buildings and structures. An architectural technologist learns a wealth of knowledge and skills to assist the architect in construction design and digital modelling, ensuring quality technological development, construction planning and cost control during the construction design process.

The previous programme "Architecture", the qualification of Assistant Architect was more artistic and focused on design, and the competences were as follows:

1. Ability to carry out the design works for a particular project under supervision of the lead architect in accordance with the construction regulatory enactments of the Republic of Latvia, European Union legal provisions concerning construction, as well as universal design principles.
2. Ability to prepare, design and complete architectural drawings of a construction project according to the scope and procedure set in the regulatory enactments.
3. Ability to understand principles of cooperation of the experts of various fields of construction design, their proposed solutions for the design documentation to be executed pursuant to the proposed solutions with the overall architectural and spatial idea of the particular project, as well as ability to resolve the problems related to the design process and make adequate decisions within the framework of his/her responsibility.
4. Ability to understand the basic principles of construction design, preparatory works and raw materials, including the basic principles of geodesic, geological, topographic and metrological works.
5. Ability to work both; in a team and independently.
6. Ability to carry out a measured site survey and prepare survey drawings.
7. Ability to measure and analyse energy efficiency and economic factors of the design, and to ensure compliance of the design solutions with the requirements set in the environmental protection, accessibility, fire safety and labour protection regulations.
8. Understanding of the legal system of the Republic of Latvia.
9. Ability to use information and communication technologies in the design process purposefully.

Riga Building College uses the e-learning environment Moodle and other digital tools to support the study process.

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

The organisation of studies at Riga Building College is formed in accordance with the Education Law, the Law on Higher Education Institutions, and the Law on Vocational Education.

**Correspondence of the study program to the field of study:**



The study programme "Architectural Technologies" complies with the binding regulative provisions and legal documents and its content is based on the basic principles and criteria of the Latvian Construction Sector Development Strategy 2017-2024 (Construction Sector Development Guidelines).

The establishment, implementation and development of the study programme "Architectural Technologies" is carried out within the framework of cooperation between RBC, RISEBA, RTU and the Union of Architects, providing for the sharing of academic, professional and material-technical resources of the partners in the implementation of the programme.

Representatives of all stakeholders (Riga Building College management, academic staff, employers, graduates and students) have participated in the development of the Riga Building College Development Strategy and have contributed greatly to defining the vision and strategic approach. In the process of elaboration, both national and regional higher education and science policy planning documents have been taken into account, as well as the current situation in the sectors, future development potential, and the trends prevailing in the global science area.

The strategic mission of the study programme "Architectural Technologies" is to prepare high-quality construction specialists for the needs of the Latvian economy, as well as to be a part of the education, research, architecture and construction industry of the European Union and other countries of the world, harmonizing the provided knowledge, skills and competences with the relevant requirements of the European Union, architecture and construction industry and society interests.

**The study programme "Architectural Technologies" was established taking into account the labour market demand** and the development strategy of the Latvian construction industry (taking into account the developed professional standard ("Architectural Technologies" PS- meeting of 14 August 2019, Minutes No. The aim and objectives of the study programme "Architectural Technologies", as well as the study results obtained during the study, correspond to the professional qualification of the fifth level (Cabinet Regulations No. 322 "Regulations on the Classification of Latvian Education"), which is a short-cycle professional higher education. The aim, objectives and achievable results are mutually consistent and ensure that graduates of the study programme "Architectural Technologies" implemented by Riga Building College will have gained knowledge and critical thinking-based understanding of the most important concepts, theories and regularities of architecture and construction, will be prepared for self-directed professional, innovative or research activities, will be able to assess the impact of their activities on society and will be motivated for personal and professional growth.

The content of the study programme "Architectural Technologies" is aligned with the aims, objectives and results to be achieved, and **is based on the admission requirements for applicants** – general secondary education or vocational secondary education, taking into account the centralised examination scores in the first foreign language and mathematics. For persons who completed their secondary education before 2004 (not included), for persons who completed their secondary education abroad, or for persons with special needs, the competition marks are determined on the basis of the successful marks obtained in the year of the secondary education document, according to a special formula for calculating the marks. Detailed information on [the Admission Rules of the study programme "Architectural Technologies" is available on the Riga Building College website](#).

#### **Characteristics of the study programme in terms of duration and scope:**

Volume in credits: 120 CP

Duration of studies in years: 3 years (full-time studies)

Degree and/or qualification: Architectural Technologist

Admission requirements: prior general secondary or vocational secondary education

The study programme "Architectural Technologies" has a large number of study courses (120 CP) and the distribution over the study years should not exceed 40 CP; therefore, the optimal study duration is 3 years.

The programme is aimed at young people motivated to study Architectural Technologies, as well as those working in architecture and construction in the private and public sectors in Latvia and abroad.

The study field "Architecture and Construction" includes the study programme "Architectural Technologies" in Latvian, which corresponds to the study field:

short-cycle vocational higher education study programme

**"Architectural Technologies",**

**qualification to be obtained - Architectural Technologist**

**code 41581,**

The duration of the study programme is **3 years of full-time studies,**

**volume - 120 credit points (CP), 180 ECTS,**

replacing the previous study programme "Architecture", which led to the qualification of Assistant Architect. Sample of diploma and its annex to be issued for the completion of the study programme "Architectural Technologies" - 3.1.2. AT Diploma with Annex.pdf. Sample of the Study Agreement - 2.1.4. Study Agreements.pdf.

**The principles of the study programme are based on:**

The rationale for the development of the study programme and its relevance to the field of study "Architecture and Construction" and the strategy of Riga Building College;

The management of the study programme;

Resources and facilities of the study programme;

The content and implementation mechanism of the study programme;

Graduates' employment prospects;

Compliance of the study programme with the requirements of laws and regulations.

There is no study programme in Latvia to train mid-level professionals in architectural technologies. This programme is unique; it is the first and only short-cycle vocational higher education programme in architectural technologies.

**Programme content:** in line with the national vocational education standard. The main parts of the programme are: study courses (general, sectoral); internship at the college and outside the educational institution; qualification work.

**Programme volume:** the programme volume and its structural breakdown are in line with the national vocational education standard. The programme and study courses are expressed in credit points – **120 CP**. The programme can be completed and implemented **in three years**, taking into account the knowledge, skills and competences required by the programme and the qualifications.

**Assessment principles:** the principles of programme assessment are in line with the National

Vocational Education Standard: positive achievements are aggregated; assessment is compulsory at the end of each course; openness and clarity of requirements; variety of testing methods.

**The content of the study programme corresponds to the national standard for vocational higher education and the field of study.**

The structure and content of the programme is designed to **align the outcomes of the courses with the outcomes of the study programme:**

**Knowledge**

Be able to demonstrate a comprehensive knowledge of the theories and principles of the construction design process, which is necessary for personal development and continuing education, social integration and civic participation in the development of society;

A detailed understanding of standard and non-standard situations in the professional field;

Knowledge of the technologies and methods to perform the job;

**Skills**

Able to structure, organise work, use different methods, software, information and communication technologies to carry out tasks;

Able to navigate through a variety of information, to find and evaluate the material to be used for the creative performance of professional tasks;

Able to communicate in several languages, work independently in a profession;

Able to work collaboratively in a team, further learning and development;

**Competences**

Motivated to continue education, interested in career development;

Able to work individually and as part of a team, plan, work tasks in the profession;

Able to take responsibility for the outcome and quality of professional performance.

The shortage of architectural technologists has sparked broad discussions among architect firms.

Certified architects usually want to work on concept development and project management, but what is missing is architectural technologists who professionally develop designs, project details, specifications and provide essential support to the architect on all the other necessary matters. In order to fully prepare construction design documentation in appropriate quality, in accordance with the existing laws and regulations applicable in Latvia, architectural technologists are required to perform various tasks in all phases of the construction design development process. Understand the technological processes for the production and incorporation of materials and building elements and draws up graphical parts of element connections. Develop precise technology for the incorporation of materials and elements, developing detailing solutions for buildings and structures. Architectural technologists understand building structures, the principles of structural assembly, can reasonably apply specific solutions to specific situations and make decisions based on situational analysis. Architectural technologists can work with the Building Information Modelling (BIM).

The aim of the study programme “Architectural Technology” is to prepare professionals — architectural technologists who, in a team under the guidance of a certified architect, perform various tasks at all stages of the construction design development process, using the latest

digitisation technologies and design software for the construction process.

### **Duties and tasks of an architectural technologist:**

1. To participate in the preparation of the pre-design phase: to prepare the initial data necessary for design for the analysis, to carry out a documentary study of the building to be converted, to participate in the visual inspection of the building and the territory to be converted, to carry out photo and/or video recording of the building and the territory to be converted, to carry out field surveys of construction object, to digitise results of the survey of construction object, to create a 3D surface model of the surrounding site development.
2. To identify and analyse construction materials and technologies: to identify technological options for implementation of architectural solutions, find the most efficient technology for implementation of architectural solution, select construction materials and construction products appropriate for the architectural solution and technology chosen, evaluate architectural and technological solutions and construction materials and construction product compliance with building regulations and standards.
3. To select construction materials and technologies, design and visualize: to identify the main technical solutions required, develop technical solutions for building envelopes, develop building element specifications (finishes, infill, architectural tables), control the compatibility of engineering solutions, participate in the design of buildings to be converted, create simulation calculations using a parametric information model (calculations of exposure to the sun, heat loss, sound and noise insulation), design the draft organisation of works.
4. To draw up the project documentation, including by using the information model: to prepare architectural drawings and specification/volume tables, prepare detailed drawings and specifications of the building elements and their connections reflected in the architectural section, make changes to the information model and drawings, select design appropriate to construction drawing (view, page size, type and scale), design the construction drawing with graphic designations and dimensions, print and assemble construction design materials in different scales and formats, archive the construction design materials.

There is a significant demand for architectural technologists to keep offices fully operational, as the country's economic upturn is also benefiting construction growth and current designing volumes have only increased.

Architectural technologists will be able to compete successfully locally, in the EU labour market and globally. This study programme enables students to acquire the knowledge and develop the skills needed to obtain a relevant professional qualification – Architectural technologist.

According to the College's development strategy and the College's Programme Development and Consolidation Plan 2021—2027, the number of students planned to achieve by 2023 is 60.

**Graduates of the study programme will be able to work** in architects' offices as implementers of ideas of certified architects who have an understanding of the architectural process as a whole, who are competent in identifying the latest trends, using various computer software, whose technical knowledge will enable the development of a modern design sphere in Latvia and beyond.

The current issues of the programme development and implementation have been discussed with the Latvian Builders' Association, Latvian Union of Architects, Construction Industry Expert Council, Construction Industry Digitisation Association, etc.

**Objectives of the study programme and study outcomes** provide for ensuring a set of knowledge, skills and competence in accordance with the description of knowledge, skills and competences of European Qualifications Framework (EQF) level.

The structure and content of the programme is designed to **align the outcomes of the courses with the outcomes of the study programme:**

#### Knowledge

Be able to demonstrate a comprehensive knowledge of the theories and principles of the construction design process, which is necessary for personal development and continuing education, social integration and civic participation in the development of society;

A detailed understanding of standard and non-standard situations in the professional field;

Knowledge of the technologies and methods to perform the job;

#### Skills

Able to structure, organise work, use different methods, software, information and communication technologies to carry out tasks;

Able to navigate through a variety of information, to find and evaluate the material to be used for the creative performance of professional tasks;

Able to communicate in several languages, work independently in a profession;

Able to work collaboratively in a team, further learning and development;

#### Competences

Motivated to continue education, interested in career development;

Able to work individually and as part of a team, plan, work tasks in the profession;

Able to take responsibility for the outcome and quality of professional performance.

The advantage of the study programme Architectural Technologist is that students learn drawing, sculptural geometry, tectonics, shaping, developing better spatial thinking and creativity. Thus, the student is able to think about the whole structure of the building, the technological process in the building, the architectural, structural and engineering solutions in relation to the building model.

The knowledge, skills and competences acquired by architectural technologists enable them to:

develop BIM models for the AR part,

generate and present drawings,

generate specifications,

link BIM models, etc.

apply a Single Data Environment solution to the BIM project to facilitate collaboration and improve project management processes.

All parties involved in the project — architects, structural designers, utility designers, BIM coordinators and builders — are able to manage work orders, drawings and models placed in a 3D environment. It is a single environment for sharing data and information, accessible anytime, anywhere and from any device.

When developing a design within the BIM context, it is easy for architecture and construction professionals to follow the construction process.

The programme management has clearly positioned the profession/qualification to be acquired called “architectural technologist”, and its place in the sector (see: [Map of occupations in the](#)

occupational structure of the construction sector (in Latvian)), as well as explained the differences between the professions of architect (as a regulated profession) and architectural technologist.

Explanation:

An **architectural technologist**, working as part of a team under the supervision of a certified architect, performs various tasks in all phases of the construction design development process. Understands the technological processes for the production and incorporation of materials and building elements and carries out the graphic development of element connections. Develops accurate technology for the incorporation of materials and elements by developing detailed solutions for buildings and structures and building the combined BIM model.

An architectural technologist is a member of an architect's team. The programme management with the lecturers-professionals explains the profession. This is also done by the institutions related to and responsible for the sector, explaining how this education is to be acquired — the profession of “Architectural Technologist” / place of the acquired qualification — Architectural Technologist — in the education system, in the map of professions in the fields of architecture and construction. During the meetings with employers, it was confirmed that architectural technologist needs to be positioned as a full-fledged, relevant and in-demand profession. The College has already established good cooperation with industry and continues to do so.

The beneficiaries from the implementation of the study programme are the society as a whole, which should be provided with accessible quality higher education, including students, who will be provided with a quality study programme relevant to the labour market, and employers, who will be provided with preparation of a skilled workforce at the College that meets the needs of the labour market.

The study programme is implemented in accordance with the RBC normative documents.

The implementation of the programme projects and practical tasks is ensured by quality work in the new lecture rooms of the fifth floor of the 1st, 2nd and 3rd year study programme “Architectural Technology”, laboratories, computer classrooms and e-learning environment.

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

The beneficiaries of the study programme “Architectural Technology” are society as a whole, which should be provided with accessible quality higher education, including students, who will be provided with a quality study programme relevant to the labour market, and employers, who will be provided with a skilled workforce trained at the College that meets the needs of the labour market.

The aim of the study programme is in line with the mission of Riga Building College - to train theoretically knowledgeable and practically capable specialists for the private and public sectors, emphasising the specificity of Latvia as a member state of the European Union.

The study programme content integrates competences in business, labour law, occupational health and safety, environmental and civil protection, as well as which are necessary for further education and development.

The introduction of the study programme at Riga Building College is motivated by the situation of labour market demand and the country's strategic development plans in the areas of economy and

education support. To achieve sustainability, competitiveness, knowledge-based and innovation-driven economic growth, the learning process requires the knowledge that qualified, competence-based academic staff can provide. (Latvian Smart Specialisation Strategy).

Important information on the structure and current trends of architectural practice is provided by foreign and local research. The European Forum for Architecture Policy (EFAP-FEPA) is an international network dedicated to promoting architecture and architectural policy in Europe by connecting public administration, the profession, culture and education. EFAP aims to gather and disseminate knowledge and best practice on architecture policy through expert meetings, public events and publications. European Architecture Policy Conference "High-Quality Construction for Everyone. Baukultur and the common good in Europe" in Vienna.

The research has been carried out under the auspices of the Architects Council of Europe (ACE) and the Royal Institute of British Architects (RIBA) in different practice contexts.

In Latvia, research on architectural practice is most often carried out with the financial support of the CM, the SCCF, the Latvian Association of Architects and the Certification Centre.

Priority Action Lines of the Latvian Architecture Strategy:

Professional architectural studies, further education, scientific research:

- To create a unified architectural education system, coordinate the content requirements of higher education study programmes and secondary vocational education programmes in line with practice developments
- To support the development of architectural science and research, bringing it closer to practice
- To provide for the development of continuing training programmes for architects and the improvement of existing programmes in line with the European Council of Architects' guidelines, as well as to promote the mobility of architects.

"The future development of the construction and architecture sector is mostly predicted by large companies (50%). Medium-sized companies (40.9% of cases) believe that the construction and architecture sector will grow, and the same proportion of companies believe that it will remain at the same level. Small businesses (3.2%) and micro-businesses (1.4%) say that the construction and architecture sector is likely to develop rapidly, while 42% of micro-businesses say that the sector will develop and only slightly more respondents (43.8% of small businesses and 43.4% of micro-businesses) say that the sector will remain at the same level.

These results show optimism and a positive outlook (Statistical characteristics of the Latvian architecture sector).

The programme will benefit society as a whole, which should have access to high-quality higher education, including students, who will be provided with a high-quality study programme relevant to the labour market, and employers, who will be provided with a skilled workforce trained at the College that meets the needs of the labour market.

Within the framework of the field of study "Architecture and Construction", the new study programme in Latvian **"Architectural Technology" has only been running for two years, and therefore there is no data on the employment of graduates.** Employers are very interested in the graduates of this study programme and are waiting for the first Architectural Technologists to receive their diplomas in the summer of 2023.

**Link with the professional environment of architecture is ensured:**

through the RBC graduates; through lecturers and heads of departments and the programme

director, and their participation in the professional field; through the Latvian Association of Architecture; through the involvement of professional architects, construction engineers and other practitioners in the study process; through provision of students with quality practical training spots.

Surveys of graduates and employers are conducted every year. The surveys call the respondents to assess the programmes, knowledge of graduates', skills and their relevance to labour market requirements. A summary of the questionnaire responses received from graduates of other programmes and employers shows that specialist graduating the new programme, Architectural Technologist, is highly awaited in the labour market and will be in high demand.

Architectural Technologist is very much welcome in the labour market, and will be in high demand, as Riga Building College cooperates with Architecture and Design Offices, with Architects' Offices, with architects' private practices, we can conclude that our Architectural Technologists are already welcome in the labour market. Graduates of the study programme "Architectural Technologies" will obtain the qualification "Architectural Technologist" and will fill the shortage of highly qualified specialists in the architecture and construction sector, which is indicated in the Latvian Construction Sector Development Strategy 2017-2024 (Construction Sector Development Guidelines (em.gov.lv)) demand projections for 2030 as 45%. This means that graduates' employability is guaranteed.

The construction industry faces major challenges today. Productivity is low and there is a shortage of skilled labour force. To meet the growing demand and reduce costs, we need to build more and more in less and less time. But can digital tools and automation resolve this contradiction, or do we need to critically rethink the entire value chain? Will the future be all about robots on the construction site, and will automation drive out skilled tradesmen?

The role of architecture and construction in the Latvian economy (as a share of total value added) has fluctuated between 5% and 10%, rising sharply in the period after Latvia's accession to the European Union (EU) and then declining as a result of the economic crisis.

Construction is the largest employer in the Latvian economy. It accounts for around 60,000 jobs, or 6.4% of the total. Around 22,000 are employed in building construction, including project development. (Construction industry indicators – Latvian builders).

The Latvian Construction Sector Development Strategy 2017-2024 (Construction Sector Development Guidelines) states that skilled human resources are the cornerstone of the development, sustainability and competitiveness of both construction companies and the construction sector as a whole. The industry aims for highly skilled professionals in every construction occupation, from managers, architects and structural engineers to construction workers. In industry terms, a skilled worker is motivated, willing to be part of the construction industry, with a good theoretical knowledge base in line with global trends and the ability to apply theory in practice, with an understanding of their professional responsibilities.

New competences are being integrated alongside the sector's engineering expertise to meet the sector's need for more and better professionals: ICT technologies, smart manufacturing, energy efficiency, passive house construction. The details of the study programme "Architectural Technologies" are presented in Section 3.1.1 of the self-assessment.

The improvement, development and further advancement of the study programme "Architectural Technologies" is closely related to the directions of the NAP 2020-2027 development priorities "Competitiveness and material prosperity of entrepreneurs" and "Quality living environment and development of territories" (Latvian National Development Plan 2021-2027), and also fits into the long-term innovative and eco-efficient economic development perspective of the Latvian



Sustainable Development Strategy 2030 (Latvia 2030 | Trans-departmental Coordination Centre). Human capital development and an innovative, digital economy (Informative Report on the Proposal on the Objectives, Priorities and Action Lines of the National Development Plan 2021-2027, as well as its further elaboration and public consultation process) is highlighted as a precondition for increasing Latvia's competitiveness and productivity, and among the priorities highlighted is a modern education system that meets the requirements of the future labour market and contributes to the transformation of the economy.

In the content of the study programme "Architectural Technologies" ( e.g. acquire professional competence of a construction specialist – in project development and digitisation of the construction process, basics of Building Information Modelling (BIM), computer programs, innovative technologies in architecture and construction related to building and site survey, application of drones and 3D laser scanning in surveying and modelling technologies, application of new technological solutions in design, renovation and reconstruction of buildings and structures) and implementation mechanisms (e.g., course project-based approaches to digital modelling, technological design, construction planning and cost control).

Globalisation has made the labour market demand not only excellent professional knowledge and qualifications, but also good foreign language skills, which are a major focus of the study programme. The study programme "Architectural Technologies" combines the study of architecture and construction with in-depth foreign language studies, thus preparing students to work in international offices and companies, state and municipal institutions, and the private sector.

The programme includes a set of professional knowledge, skills, attitudes and competences in demand in today's labour market, with an emphasis on the acquisition of applied knowledge and professional skills through study projects, qualification work (diploma project), seminars, practical classes and professional internships.

#### **3.1.4. Statistical data on the students of the respective study programme, the dynamics of the number of the students, and the factors affecting the changes to the number of the students. The analysis shall be broken down into different study forms, types, and languages.**

Statistical data on students enrolled in the short cycle professional higher education study programme "Architectural Technology".

Dynamics of the number of students enrolled in the study programme "Architectural Technology":

- In the 2020/2021 academic year there are 38 students
- In the academic year 2021/2022 there are 31 students

Analysis of the number of students enrolled shows that the number of students enrolled in the second academic year has decreased by 18%. In the 2020/2021 academic year, some of the students were waiting for the opening of the new study programme "Architectural Technologies", so the number of students in the first year was higher. The decline in student numbers in recent years can also be attributed to demographic trends and the COVID-19 pandemic.

The main reason for dropping out (67%) is underachievement, which has also been expressed recently by teaching staff as dissatisfaction with the low level of motivation of students to study. Only 3% of students acknowledge the impact of the COVID-19 pandemic on distance learning and

9% of students acknowledge their inability to combine work and studies, while 21% of students have other reasons for stopping their studies (family circumstances, change of residence, birth of children, etc.).

Considering the matter on dynamics of the number of graduates of the study programme “Architectural Technology” the first graduates in the study programme “Architectural Technology” will be in 2023.

The main reasons for students’ drop-out in the study programme “Architectural Technology”:

- Poor results
- Inability to combine work and studies
- Family circumstances
- Covid-19 (distance learning) Other reasons

Distribution of the number of students by language of study programme implementation:

- Students study under the programme “Architectural Technology” 100% in Latvian.

Distribution of the number of students enrolled in the study programme “Architectural Technology” by funding source is state-budget funded students and pay students providing personal funding:

- In the 2020/2021 academic year, 92% of students were funded by the budget, and 8% paid tuition fee
- In the 2021/2022 academic year, 98% of students were funded by the budget, and 2% paid tuition fee

Results of the student survey of the study programme “Architectural Technologist”: students' perception of the selected study programme is evaluated in Annex No. 5, its evaluation, quality, provision of methodological and informative material, material-technical provision of the programme, evaluation of academic staff quality, evaluation of international cooperation, evaluation of programme quality improvement. See Tables 1-4 and Figures 1-10. The results of the survey therefore show that students:

are satisfied that the chosen university/college and study programme match the student's expectations; the quality of studies in the chosen study programme is positively assessed; the study programme is well supported by good methodological and informational provision; the study programme's material and technical provision is rated from medium to high; the quality of the academic staff involved in the implementation of the study programme is rated as good; a score of 3-5 for international cooperation between the institution of higher education and the study programme (guest lecturer involvement, international student exchange, etc.); the assessment of students' ability to participate in the quality improvement of the study programme is very good.

#### **Statistics on full-time students from abroad under the study programme “Architecture” and “Architectural Technology”**

2015/2016	Serpil Öz	01.02.2016–30.06.2016	Architecture (SMS)	Maltepe University, Turkey
	Anil Turhan	01.02.2016–30.06.2016	Architecture (SMS)	Istanbul Gelisim University, Turkey
2016/2017	Vladislavs Dobrinskis			VIA University college, Denmark

2017/2018	Kerim Cenanovic Sezahija Muslic	01.09.2017–31.01.2018 01.10.2017–28.02.2018	Architecture	International BURCH university, Bosnia & Herzegovina
	Beyza Uzun	01.10.2017–28.02.2018	Architecture	Maltepe University, Turkey
2018/2019	Murat Ekrem Eksioglu Hazal Guner	01.09.2018 — 30.01.2019	Architecture	Maltepe University, Turkey
	Alim Köse Murat Ekrem Eksioglu (2x)	01.02.2019–30.06.2019	Architecture	Maltepe University, Turkey
	20 students	14.06.2019 – 15.07.2019	Architecture / Construction	Sandip Foudation / Sandip university, Indija
2019/2020	Yigit Kocabas	01.09.2019–01.02.2020	Architecture	Maltepe University, Turkey
2020/2021	Yavuz Erbabacan	01.09.2020—01.02.2021	Architecture	Maltepe University, Turkey

During the reporting period, there were full-time students from abroad (from Istanbul Gelisim University — 1 student, from Turkey, Maltepe University — 7 students, from Turkey, International BURCH university — 2 students, Bosnia & Herzegovina, VIA University college 1 students, Denmark, Sandip Foudation / Sandip university 20 students, India).

As the study process is conducted in Latvian, some of the lectures were translated for the foreign students, students could speak in English or Latvian to complete their course projects and practical work, and the foreign students also had consultations in English.

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

## **3.2. The Content of Studies and Implementation Thereof**

### **3.2.1. Analysis of the content of the study programme. Assessment of the interrelation**

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

Compliance of the study programme "Architectural Technology" with the national education standard (Annex No. 6).

The study programme "Architectural Technologies" is updated and improved once a year, before the beginning of the current academic year, taking into account the labour market demand, scientific trends and the development strategy of the Latvian construction industry, which states that qualified human resources are the cornerstone of development, sustainability and competitiveness of both construction companies and the entire construction industry. This is in line with the aim of the study programme. The content of the study programme is updated taking into account the recommendations of experts in the field of architecture and construction, as well as trends in architecture and construction.

The objectives and outcomes of the study programmes are designed to complement each other and ultimately achieve the overall goal of the study programmes - to prepare theoretically knowledgeable, practically strong professionals in the field of architecture and construction.

The content of the study programmes is in line with the content of the course programmes and the skills, knowledge and competences requirements of the occupational standards.

Evaluating short-cycle vocational higher education:

- the principle of aggregation of positive achievements: education is assessed by aggregating positive achievements;
- the principle of compulsory assessment: a pass mark is required for the mandatory content of the core parts of the programmes;
- the principle of openness and clarity of requirements: a set of core requirements for the assessment of learning is defined in line with the aims and objectives of the programmes and the aims and objectives of the courses;
- the principle of variety in the types of assessment used: different types of assessment are used to assess learning;
- the principle of relevance: the assessment provides opportunities to demonstrate analytical and creative abilities, knowledge, skills and competences in tasks and situations appropriate to all levels of learning. The content of the examinations is in line with the content of the course syllabuses and the skills and knowledge requirements of the occupational standards.

The degree of achievement of the learning outcomes is assessed on a 10-point system or on a pass/fail basis.

The aim of the study programme "Architectural Technologies" is to train professionals: architectural technologists who, in a team under the guidance of a certified architect, perform various tasks at all stages of the construction design development process, using the latest digitisation technologies and design software for the construction process.

The objective and tasks of the study programme are in line with the EU guidelines on qualifications

in the European education area and level 5 of the European Qualifications Framework (EQF) (Regulations on the Classification of Latvian Education, Cabinet Regulation No. 322, 13 July 2017).

Mapping of the study programme (Annex No. 8).

The choice of topics in the content of study courses corresponds to the outcomes defined by the study courses: skills and attitudes, knowledge and professional competences.

The programme provides for the acquisition of professional competences, taking into account the development trends of the Latvian, European Union and global labour market, in-demand professions and competences. The implementation of the study programme provides opportunities for students to organise their independent work using the e-environment, thus ensuring equal opportunities for different groups of society. The study programme is adaptable to the interests of different students.

The objective of the study programme is to provide an opportunity to acquire the profession of architectural technologist and to prepare for professional activity in the field of architecture and construction. The objective of the study programme is in line with the mission of Riga Building College — to prepare theoretically knowledgeable and practically capable specialists in three years for the private and public sectors, emphasizing the specificity of Latvia as a Member State of the European Union.

Content of the programme integrates competences in business, labour law, labour protection, environmental protection and civil protection, which are necessary for further education and development.

Within the framework of the field of study “Architecture and Construction”, it is necessary to develop the new study programme in Latvian “*Architectural Technology*” (qualification — architectural technologist) 180 ECTS (120 CP). Duration of the study programme is 3 years.

Study planning of the study programme is structured in programme parts and their scope:

General study courses — 20 CP,

Courses of the field study — 66 CP,

Free elective study courses 1 CP, i.e., the study courses 87 CP included in the programme represent 73% of the total study volume.

Practical training – 21 CP

Qualification work (Diploma project and applied research) 12 CP — 10 CP are 10% of the total volume.

The compulsory content according to the requirements of the standard is that the study plan of the study programme consists of general education courses, courses in the field, courses in the specific profession.

Compliance with the requirements of the Environmental Protection Law and the Civil Protection and Disaster Management Law is that the “Labour, Environmental and Civil Protection” course is implemented in the volume of 2 CP, agreed with the Ministry of the Interior. A civil protection plan has been developed, evacuation route plans have been drawn up and posted at RBC sites, a civil protection officer has been appointed, and practical training for staff and students has been organised and carried out.

After completing the programme, students receive a Diploma of Short Cycle Vocational Higher Education and qualification — Architectural Technologist.

Possibilities of continued studies are provided under the bachelor's study programme "Architecture". See annex on the concluded cooperation agreements with the RISEBA University of Applied Sciences and the Riseba University of Business, Arts and Technology and the EKA University of Applied Sciences.

The principles of programme assessment are in line with the National Vocational Education Standard: positive achievements are aggregated, assessment at the end of each course is compulsory, openness and clarity of requirements, variety and relevance of testing methods.

Professional standard Architectural Technologist has been harmonised at the meeting of the Tripartite Cooperation Sub-Council for Vocational Education and Employment on 14 August 2019, Minutes No 5. <https://www.rck.lv/wp-content/uploads/2019/10/arhit-tehnologs.pdf> (in Latvian only).

Architectural Technologist conforms to the fourth (4th) vocational qualification level (4th VQL) (corresponds to the fifth (5th) Latvian Qualifications Framework level (LQF level 5)).

An architectural technologist, working as part of a team under the supervision of a certified architect, performs various tasks in all phases of development of construction design process. Understands the technological processes for the production and incorporation of materials and building elements and carries out the graphic development of element connections. Develop precise technology for the incorporation of materials and elements, developing detailing solutions for buildings and structures.

For the conformity of the first level vocational higher education study programme "Architectural Technology" to the professional standard, see (Annex 7).

Conformity of the programme to the levels of study course acquirement and the credits of the courses is analysed and evaluated:

Skills and attitudes, PROFESSIONAL knowledge and competences necessary for the fulfilment of the main tasks and duties of professional activity in study courses at the level of conception, understanding, and application.

Skills and attitudes necessary for the performance of the main tasks and duties of professional activity, GENERAL knowledge and competences in study courses at the level of concept, understanding, and application.

See (Annex 9) for the first level vocational higher education plan of the study programme "Architectural Technology" (Architectural Technologist).

**3.2.2. In the case of master's and doctoral study programmes, specify and provide the justification as to whether the degrees are awarded in view of the developments and findings in the field of science or artistic creation. In the case of a doctoral study programme, provide a description of the main research roadmaps and the impact of the study programme on research and other education levels (if applicable).**

**3.2.3. Assessment of the study programme including the study course/ module implementation methods by indicating what the methods are, and how they contribute to the achievement of the learning outcomes of the study courses and the aims of the study**

**programme. In the case of a joint study programme, or in case the study programme is implemented in a foreign language or in the form of distance learning, describe in detail the methods used to deliver such a study programme. Provide an explanation of how the student-centred principles are taken into account in the implementation of the study process.**

The knowledge, skills and competences required in each course of study are assessed by a variety of tests, following the principles of student-centred education, which are:

- Lecturers are familiar with the testing and examination methods that are most appropriate for the course;
- Students are informed of the assessment criteria and methods at the start of the course;
- Assessment is consistent, fair and appropriate for all students;
- Assessment gives learners the opportunity to demonstrate the extent to which they have achieved the expected learning outcomes. Learners receive feedback and guidance in the learning process;
- More than one examiner is also involved in some courses.

There is a grade appeal procedure and students can correct their results. All study courses included in the study programme are implemented in accordance with the course descriptions, which also define the evaluation system of the respective course.

- the principle of openness of assessment: a set of requirements for assessing the achievement of learning outcomes is defined in accordance with the aims and objectives of the programme, as well as the aims and objectives of the study courses. The set of requirements is specified in each course description.
- compulsory assessment: the need to obtain a positive assessment for each course of study, respectively for the entire content of the programme.
- the principle of reviewability: sets out the procedures for reviewing the resulting assessment.
- the principle of variety in the types of assessment used: different types of assessment are used to assess learning. Each lecturer in his/her course regularly tests students' knowledge using the types of tests specified in the course syllabus and course description (tests, homework, papers, presentations, independent work, group work, etc.). The requirements depend on the specifics of the course and the organisation of the study process, as well as the form of study. Examinations are organised in both written and oral formats. The final evaluation after the completion of the course of study includes an evaluation of the student's performance throughout the course of study, including participation and quality of work in classes, the results of control and independent work, as well as an examination grade. The course is successful if the requirements of the programme have been met by the end of the examination period, unless an extension has been granted.

The methods for assessing learning and knowledge are objective and consistently followed. The scope of each test is consistent with the content of the course programme and the skills and knowledge requirements set out in the Occupational Standard. Learning outcomes are measured by two indicators:

- qualitative assessment: a mark in a 10-point system;
- quantitative assessment: the number of credit points according to the scope and relevance of the course of study.

The studies are based on the student's independence, with guidance and support from the lecturer. The description of each study course specifies the scope and content of students' independent work, as well as the methods of its assessment. The RBC e-environment contains published assessment requirements, criteria and methods for grading each study course, as well as an explanation of the grades. Students receive an explanation of the assessment and, if necessary, advice on how to improve their work.

The principles of student-centred education are taken into account in the implementation of the study process:

Students are involved in the development of study programmes and the learning environment through student surveys. Students evaluate the study process, lecturers, administration and relationships through surveys and discussions. Cooperation with students is carried out in accordance with the internal rules "Riga Building College Student Survey Procedure for Evaluation of the Study Process". The surveys provide feedback on the quality of study courses, students' attitudes and satisfaction. The survey takes place once a year, at the end of the course. Students are provided with an individual approach throughout the study process and support from lecturers.

RBC has developed internal rules "Procedure for Submission and Consideration of Proposals and Complaints of Riga Building College Students", which determine the procedure for students to submit proposals and complaints regarding the implementation of the study process, the working procedure of the College, etc.; they can be submitted individually or by a group of students, also from the RBC Student Self-Government Council.

The implementation of the study programme "Architectural Technologies" is carried out using different study forms, formal and informal education methods and methodological approaches. The study programme uses various methods of contact study, including lectures, practical classes, consultations, individual and group work, discussions, situation analysis, problem-oriented situation studies, and classes on the use of information technologies. Interactive study techniques and methods are used to promote analytical, critical, problem-based, systemic and creative thinking, group and team work techniques, applied communication, including intercultural communication, discussion, presentation, etc. skills development: projects within the course of study, case and problem analysis, applied research, field trips, analysis of audio-visual material, practical workshops, simulations, competence training by experienced professionals, group work, open lectures, guest lectures by foreign experts, etc. Practical work and the development of study projects aiming at the mutual integration of theoretical knowledge, research and practice play an important role in the networking activities. Emphasis is placed on students' independent work. The following study methods are also used: competency training, applied games, group work, problem analysis, tests, etc., which are successfully integrated into the study courses of the programme "Architectural Technologies". The use of modern technical tools plays a key role.

The **main planned results of** the study programme "Architectural Technology" **for graduates are:** prepared highly qualified architectural technology specialists competent to implement architect's ideas and perform various tasks at all stages of the development process of construction design using Building Information Modelling (BIM) within the framework of their professional activity.

Upon completion of the Architectural Technology study programme, graduates along with the 4th professional qualifications will acquire the following competences required for an Architectural technologist:

Able to create an information model of a surveyed construction object at the initial level of detail



and to draw up drawings;

Able to carry out a documentary study of the building to be converted under the guidance of an architect;

Able to independently carry out photographic and/or video recording of the building to be converted and the territory in accordance with the plan drawn up and the architect's assignment;

Able to carry out and accurately document the results of surveys of a construction object in accordance with the plan drawn up and the architect's task in a thorough and independent manner;

Able to create a 3D surface model of the surrounding site development in the degree of detail specified in the assignment;

Able to analyse and assemble building materials and construction products appropriate to the architectural solution adopted and the technology chosen;

Able to identify the main technical solutions required in accordance with the work assignment, work and time planning;

Able to develop technical solutions for appropriate building envelope structures according to the architectural and structural design of the building object;

Able to draw up accurate and detailed specifications for building elements;

Able to monitor the compatibility of engineering and technical solutions, identify and resolve discrepancies;

Able to design reconstruction concept options and participate in their comparison and evaluation;

Able to create and design simulations-calculations using an information model and calculation methodologies;

Able to develop a work organisation project, including a description of the environmental protection measures, according to the specificity of the object in question;

Able to prepare a set of architectural drawings and tables of specifications/scopes;

Able to independently understand and make changes to construction drawings, understand the impact of changes on other elements of the structure and make revisions to drawings; Able to draw up independent and visually legible construction drawings at the appropriate scale in accordance with the drawing standards;

Able to cooperate with those involved in the work process.

The learning outcomes are verifiable and in line with the set objectives and tasks. Successful completion of the study programme will result in the professional qualification of "Architectural Technologist" and a short cycle professional higher education.

The didactic concept of the study programme stipulates that the study process is based on the student's independent work, coordinated and advised by lecturers in lecture rooms. At the beginning of their studies, students learn the study methodology. The expected results of the studies are defined in accordance with the professional standard and oriented to the graduate's ability to successfully implement the acquired theoretical knowledge in practice.

Courses consist of lectures, seminars, practical classes, tutorials and laboratory works. The course will include discussions, situation analyses, simulation calculations using a parametric information model and comparisons of different options. When organising the study process, the study methods should promote the student's responsibility for self-learning and be oriented towards the acquisition

of practical skills. During the study process, student work expositions and interim expositions are organised, practical work, simulation calculations, and study excursions will be given a lot of attention, as well as specialists in the relevant field will be involved — guest lecturers for individual lectures or lecture cycles, as well as individual professors or assistant professors, including from abroad — Lithuania and Denmark. The study process promotes students' communication and teamwork skills.

Students and lecturers use: e-mail, WhatsApp, Telegram, Skype, Dropbox, Zoom, MS Teams, etc. In the RBC e-environment, communication takes place on the [Moodle platform with a password](#) (interface language could be switched), where students have access to assignments and materials necessary for studying the courses.

A lot of attention is paid to the development of honesty, the creative use of knowledge, the acquisition of scientific methods of inquiry and independent problem-solving.

The RBC ensures that programmes are implemented in a way that encourages students to take an active role in shaping their study process and that the assessment of student results is consistent with this approach”, the college implements student-centered learning (SCL), teaching and assessment. The standard guidelines state that “student-centered learning and teaching play an important role in stimulating students' motivation, self-reflection and engagement in the learning process. This means careful and thoughtful design and implementation of study programmes and evaluation of results.

Introducing student-centered teaching and learning:

Take into account and respect the diversity of the student population and their needs when designing appropriate learning pathways;

Take into account and use different ways of implementation of the programmes, according to opportunities;

According to the circumstances, use various pedagogical methods;

Encourage the student to strive for independence, while at the same time providing guidance and support from a member of staff;

Promote mutual respect between student and teaching staff;

There are appropriate procedures in place to address student complaints.

The organisation of studies and the procedure for conducting and assessment of examinations at the RBC are laid down in the “[Regulations of the Studies of Riga Building College](#)”.

Students are provided with consultations of lecturers, informed in the e-environment, and the information is posted on the notice board. Both individual and group consultations is organised. Students have access to lecturers' phones and/or e-mails. In order to achieve the planned results in the study process, students are familiarised with the learning objectives, tasks and expected results, as well as the assessment criteria, when they start their studies at the College and when they start studying each individual study course. Internal Rules “[Mutual Obligations and Rights of Riga Building College Lecturers and Students in the Study Process](#)”.

Research work (applied researches) is an integral part of the study process, and students are involved in it from the first semester, having previously been lectured on research methodology.

The study programme is updated/reviewed once per academic year by means of a self-evaluation of the study programme, based on:

1. the opinions expressed in the student/graduate/employer survey results;
2. assessment of the results of the qualification work (diploma project) and the current examinations;
3. listening to the recommendations of practical training supervisors and employers.

Study results are regularly analysed at the RBC Council meeting, departmental meetings, lecturers' general meetings, student self-government meetings and management meetings.

The expected learning outcomes are reflected in the course descriptions.

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

The practical training is an integral part of the study programme at Riga Building College. It is organised in accordance with the objectives and tasks of the study programme and corresponds to the professional qualification of an architectural technologist. Volume of the students' practical training is 20 credits, 2D and 3D parametric modelling practical training – 7 CP is planned for the second year - 6 CP and 1 CP in the third year, design practical training is planned 10 CP for the end of the third year, before the qualification work (diploma projekt).

Practical trainings in the study process ensure implementation of the study programme and the achievement of study results, since the planned study results are related to and achievable through the implementation of practical training programmes. Feedback is thus generated.

Objective of the practical training is for students to acquire abilities and skills in the construction design development process and communication with colleagues. Students must learn to analyse, systematise and integrate the information obtained during the practical activities in order to successfully apply the acquired knowledge in designing work. This leads to an understanding of the basic principles and technological solutions of building design and rebuilding.

During the practical training, the knowledge is strengthened so that students are able to independently develop space layouts, node solutions, taking into account the basic principles of building designing and rebuilding. Students consolidate the knowledge acquired in the design study course during their practical training, thus learning the processes that take place in space and in the building, creating an image of the building, systematising and integrating the information acquired in practice and successfully applying it in practical work.

Assessment of students' knowledge is based on discussion and practical work.

The delivery mechanism of the study programme ensures the achievement of the learning outcomes, including the principles of course learning, student placements and student support, which are integrated into the content of the study programme. The student can acquire practical training by working in a design office, thus consolidating the knowledge and skills acquired during the study process and acquiring the necessary skills and competence.

Students' practical training is regulated by the Law on Vocational Education, Cabinet Regulation on Organisation of Training Internship and Insurance of Persons to be Educated, "[Riga Building College Training Internship Organisation Procedure](#)".

The study regulations provide for the conclusion of tripartite practical training agreements during the practical training between the RCC student-intern, the college and the company-intern employer.

Students can also undergo their practical training outside Latvia, within the framework of the Erasmus programme. Cooperation agreements on practical training of students are in place. Riga Building College helps you find internships, as the Internships section contains information about previous years' Internships and places from which good reviews have been received. Riga Building College also encourages students to be interested and look for their desired internship, which is very often also the student's next job.

At the end of the design practice, the student submits a practice report signed by a representative of the practice site and the practice is defended in the presence of the practice supervisor from the architectural practice.

The College has a long-standing cooperation with several practical trainings ("Alberta projekts" LLC (SIA), "Art Zone" LLC (SIA), "Trīs robi" LLC (SIA), "BM Projekts" LLC (SIA), "Arhiteh" LLC (SIA), M. un V. Brūzis", LLC (SIA) "Ado birojs", LLC (SIA) "JR Elements", LLC (SIA) "Creo Group", LLC (SIA) "BK Royal", LLC (SIA) "Procel Pro", LLC (SIA) "Volko Engineering", etc.), which are also interested in providing the students of the new study programme with practical training spots. Within the framework of the development of the new study programme, close cooperation was established with several offices that were involved in the development of the study programme, such as the LLC (SIA) "Kvites", LLC (SIA) "Arhitektūras vēstniecība", LLC (SIA) "ARHIS ARHITEKTI", LLC (SIA) "MUUD", LLC (SIA) "MARK arhitekti", LLC (SIA) "Vizuālās modelēšanas studija", etc., with whom cooperation agreements on practical training of students were also concluded.

During the qualification practical training, the student is expected to familiarise themselves with the works carried out by the client and the designer at the pre-project stage, to regularly complete the tasks of the practice reports and to develop a proposal, justification and BIM model of the final version of the qualification work:

- Familiarity with building regulatory literature and technical regulations
- The land plot of the object to be designed must be surveyed, and analysis of the existing site development must be carried out
- Substantiation of the object concept within the environmental context must be provided. Materials of analogous buildings must be collected, analysis of a similar building design should be carried out
- Compliance of the construction intent with the parameters of the site development, taking into account the requirements of regulation of the normative documents — fire safety, insulation, energy efficiency, environmental accessibility, sustainability, etc.
- Economic substantiation of the object concept, calculations of site development parameters and indicators, development of a master plan sketch on a topographic plan must be carried out
- Connection solutions for external engineering networks must be justified
- Principal relationship between the object architecture, building structures and engineering network solutions must be understood
- An assessment of the choice and appropriateness of materials used must be made
- The choice of construction technologies must be substantiated
- A proposal for a Work Organisation Project (WOP) must be developed

- Raw data compilation and modelling of the site, must be carried out
- Substantiation for the choice of the level of detail of the construction design must be provided
- A concept of the location of the premises of the object to be designed, final sketches of the plans, cross sections, facade solutions and the master plan must be developed
- Final sketches of the structural solution — foundations, load-bearing walls, slabs, roof, structural nodes — must be drawn up
- Work drawings and spatial model of the object must be developed. Visualisations
- Integration of architectural, structural construction and engineering network solutions into the BIM system must be understood and carried out
- Interrelationship of the parts of the Construction Design must be substantiated
- Analysis of and necessary adjustments to the solutions of the Construction Design must be carried out
- Specifications for construction products and cost estimate proposal must be developed
- Draft explanatory description must be carried out

The supervisor of the qualifying practical training is responsible for monitoring the completion of the qualification work (diploma project) assignment by reviewing the materials together with the practical training report and giving a conclusion on the student's readiness for the qualification work (diploma project).

The qualification work (diploma project) must be developed in a planned manner, meeting the deadlines specified in the timetable for each part of the diploma project. According to the timetable, the supervisor and the advisors of the diploma project schedule the reception times within the number of hours foreseen in the workload and confirm them with the study department and the Department of Architecture.

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

### **3.2.6. Analysis and assessment of the topics of the final theses of the students, their relevance in the respective field, including the labour market, and the marks of the final theses.**

After completing the full RBC short cycle vocational higher education study course under the programme “Architectural Technology”, students start preparing for the development of their qualification work.

A qualification work is an independent work of a student, the defending of which leads to the professional qualification “Architectural Technologist”. The qualification work shall be developed by students who have obtained a satisfactory grade (4-10) in all subjects and practical trainings included in the study programme and who have been granted permission to develop a qualification work by order of the Director.

The Director of the College approves an order drawn up by the Head of the Study Department

specifying the topics of the qualification work, the qualification practical training supervisors/diploma project supervisors and the advisors for each part of the qualification work (diploma project).

During the qualification practical training, student familiarises himself/herself with the works carried out by the client and the designer at the pre-project stage, regularly completes the practical training report tasks and develops the final qualification work (diploma project) proposal, substantiation and BIM model.

The supervisor of the qualification practical training is responsible for monitoring the completion of the qualification work (diploma project) assignment by reviewing the materials together with the practical training report and giving an opinion on the student's readiness for development of qualification work (diploma project).

**Topic of the qualification work (diploma project) is a small public building in relation to the BIM model**, and it has to be developed in a planned way, meeting the deadlines indicated in the work schedule for each part of the qualification work (diploma project). The topic is topical and relevant to the Architectural Technology study programme. Students will be able to demonstrate their knowledge in the field of Architectural Technology by designing node solutions and a BIM placed model. It would be useful to emphasise that, having received the Diploma of an Architectural Technologist, applicants will be obliged to solve similar tasks related to buildings and their technology at their workplaces. According to the timetable, the supervisor and advisors of qualification work (diploma project) schedule the reception times within the volume of number of hours foreseen in the workload and confirm them with the programme director and the study department. The graduate student presents the materials from the work phase within the approved timetable.

Compliance of the progress of development of the qualification work (diploma project) is monitored by the Programme Director, together with the diploma project supervisor and the relevant advisor. At the end of each stage of the thesis development, the advisor submits to the diploma project supervisor a report and evaluation of the thesis developed by the graduate student in 10-point system.

During the inspection of the thesis in the final week, the thesis supervisor and the Programme Director assess the readiness of the diploma project and the explanatory description.

A draft order for admittance to plagiarism check is prepared, the project leader's assessment and review forms are issued.

The qualification work (diploma project) supervisor accepts and reviews the qualification work (diploma Project), prepared in digital environment, fully designed and approved by all advisors.

The qualification work (diploma project) supervisor submits an overall grade, which is communicated to the Programme Director and the student, and the qualification work (diploma project) is considered complete.

The Programme Director transfers the qualification work (diploma project) for plagiarism check. After a positive assessment of plagiarism check, the qualification work diploma project can be examined by a reviewer.

Graduate students submit to the Programme Director the evaluation and review of the qualification work (diploma project) supervisor. A draft order authorising the defence of the diploma project is prepared.

During the course of development of the diploma project, the student acquires knowledge in the

development of the construction design in the Construction Information Model (BIM) model and drawing up thereof. Student presents the acquired professional skills, demonstrates his/her the ability to use theoretical knowledge to solve specific tasks in the field of architecture, develops independent work skills and acquires research and experimentation methodology in solving problems and issues raised in diploma designing.

The qualification work (diploma project) develops a construction design for a public building in accordance with the Architectural Technologist's professional standard and the requirements of Latvian construction standards.

The construction design is developed in digital format with an explanatory description, drawings, graphic materials and a presentation Construction Information Model (BIM) model.

Criteria for the evaluation of the diploma project: Understanding of the practical significance of the Qualification work (diploma project), quality and sustainability of development of the object solutions, application of Construction Information Model (BIM), graphic level of presentation and professional language.

Assessment of the qualification: the degree of achievement is assessed on a 10-point scale.

#### **Level of learning Assessment Explanation Approximate ECTS mark**

<b>Level</b>	<b>Mark</b>	<b>Explanation</b>	<b>ECTS</b>
Very high	10	excellent (with distinction)	A
	9	excellent	A
High	8	very good	B
	7	good	C
Medium	6	almost good	D
	5	mediocre (satisfactory)	E
	4	almost satisfactory	E/FX
Low	3 - 1	negative (unsatisfactory)	Fail

All topics of qualification works:

"Small public building in the context of the Building Information Model" is relevant in the industry and in the labour market, as the qualification work is looking for a real and specific site, and for contacts with municipalities and architectural firms to design a public building on a specific site. The result is a qualification thesis and a project concept proposal with a high level of detail, technological development and the creation of a building information model. The student thus demonstrates his/her level of competence and capability, as well as his/her knowledge of the construction design process. The first group of graduates of the Architectural Technologies programme will develop and defend their qualification theses in 2023.

### 3.3. Resources and Provision of the Study Programme

**3.3.1. Assessment of the compliance of the resources and provision (study provision, scientific support (if applicable), informative provision (including libraries), material and technical provision, and financial provision) with the conditions for the implementation of the study programme and the learning outcomes to be achieved by providing the respective examples.**

The Programme Director coordinates the activities of the departments involved in the implementation of the short cycle vocational higher education study programme “Architectural Technology”. The Programme Director is responsible for ensuring the implementation of the study programme content, updating the course descriptions, teaching the relevant study courses and preparing the self-assessment for accreditation. Identifies and collects information from employers on the quality of study programmes and the need for new study programmes.

The following structural units are involved in the study process:

The Study Department organises the study process.

Academic staff carries out teaching, methodological and research work.

The lecturers involved in the programme to be accredited have the necessary skills to transfer their knowledge and experience to students and to receive feedback on their work. All lecturers are provided with the opportunity to improve their knowledge, participate in advanced training courses, study for a doctorate, develop scientific work and, as part of exchange programmes, go on practical trainings or lecture abroad and attend professional international exhibitions.

The International Relations Department organises the involvement of students and lecturers in various international projects.

The Housekeeping Department, which deals with material and technical provision matters.

Human Resources Department which deals with entry into the employment and company contracts, etc.

The Practical Training Department cooperates with employers in organising student practical trainings at construction sites and architects' offices, provides practical training sites, prepares and compiles student practical training documentation.

The Programme Director and the Study Department control the progress of the qualification work (diploma project) and the defence procedure.

Methodological room — students can copy, print, bind, scan materials, work on computers in the presence of a methodological class consultant.

Practical implementation of the programme is supported by college staff capable of ensuring the functioning of the infrastructure: a computer system administrator, library staff, technical staff, workshop and laboratory managers and laboratory technicians.

Marketing of the new study programme is the responsibility of, and the function of public information is performed by the Public Relations Specialist.

The duties and responsibilities of academic staff and students are laid down in the College's Internal



Rules "Mutual Duties and Rights of Lecturers and Students in the Study Process". Approved at the RBC Council Meeting on 15 February 2017, Minutes No. 61, Clause 1.

The management structure of Riga Building College is shown in the diagram (in Latvian) on the website.

Resources available to students, incl. study rooms, facilities, tools and equipment (for preparation, combination, integration and visualisation of study and research materials), information networks (Internet, intranet, Moodle), databases (library network, free access to databases (book resources database), materials (research materials, scientific publications, archives), services (administrative, financial, IT and network support services, access to official statistics), computer applications and software (Standard Office, AutoCAD, Revit, online data visualisation tools and software, online communication tools) allow to study all courses of the programme, as well as to carry out research at different stages, providing a flexible and student-oriented environment.

The programme uses the necessary technical equipment (computers with licensed software, projectors, interactive whiteboards, etc.) and a variety of teaching methods (group work, role plays, simulations, seminars, discussions, etc.)

Riga Building College Library is a structural unit of the RBC, registered on 6 September 2004 with the Register of Libraries under the registration number BLB 1703.

The library has a total area of 300 m<sup>2</sup> with 50 workstations and 7 computers. Users have access to a scanner, a multifunction machine with printing, copying and scanning capabilities.

The library was accredited on 16 May 2017 (accreditation sheet No. 786 A), and it was granted the status of a library of local interest. The library has been integrated in the national unified library information system and carries out library processes in the automated information system "SKOLU ALISE".

RFID security system (security gates) has been installed in the library. A separate book repository and reading room for architecture and restoration programme students has been arranged.

Electronic catalogue is available at: <https://skolas.biblioteka.lv/>, a link leading thereto is provided on the College's website. The library's collection consists of 20,000 units, including books, periodicals, as well as students' theses.

Students and lecturers can use the resources available in the library.

The library is a unit of the institution and its main task is to provide the necessary information resources and services for teaching and studying.

Students and lecturers of the study programme "Architectural Technologies" have access to:

- 50 reader workstations;
- 8 computers with wireless internet, 2 scanners, 2 copiers, 2 printers;
- The collection consists of 22,258 items, including books, periodicals and students' qualifying works (diploma theses) in paper format: Building Science, Engineering Systems, Architecture 2018-2019, Restoration 1995-2018 and Applied Research in Architecture 2013 - 2020, Restoration 2003 - 2020);
- subscription to Latvian national standards (LVS) applicable to the construction industry;
- magazine "Būvinženieris" is also available online;
- Open Research Library, an open access e-book platform offering single access to more than 20,000 open access books published worldwide.

Books were purchased, and subscriptions for 14 periodicals were made, including the special

architecture magazine in English called DETAIL, and magazines: “Latvijas būvniecība”, “Latvijas arhitektūra”, “Būvinženieris”, “Deko”, “RESTAURO” and other.

The RBC library contains Latvian construction and architecture magazines published since 1997.

The library's collection includes students' theses (2018, 2019, 2020, 2021), as well as applied researches developed by restoration and architecture students from 1996—2021. These applied researches serve as an informative and methodological basis on which both students and lecturers can continue to work on these topics in depth.

Books acquired for the collection of the library during 2016-2022 in relation to the study programme "Architectural Technologies": **107 books: 70 in English, 37 in Latvian**

The specialists of the study programme in architectural technology must be familiar with the application of various building materials, both for new and historical buildings; these specialists must be familiar with the methods of determining the properties of materials, interpretation of the data obtained, the principles of compatibility and application of materials in design and author's supervision.

On 23 August 2017, Riga Building College signed an agreement with the Central Finance and Contracting Agency on the implementation of the ERDF project “*Modernisation of the Building Material Properties Testing Laboratory*” (project No. 8.1.4.0/17/I/006).

The e-environment is used for the implementation of the study program: the Moodle platform, Microsoft Teams and Zoom platforms are also used for remote lectures.

The objective of the project was to improve the study environment of STEM programmes at the Riga Building College (RBC) — to modernise the construction material laboratory by equipping it with modern construction material property testing equipment, inventory and computer hardware suitable for effective training of students in working with specific computer programmes used in construction — BIM technologies in study programmes.

The RBC has the material and technical facilities to support its study programmes:

projectors and screens; special interactive whiteboards; copiers; printers; scanners; document binding and laminating equipment; foam cutter for making models; acoustic systems and sound amplifiers; video and still cameras; audio and video equipment;

E-studies are provided with the help of various modern technology tools; both Zoom Cloud meetings and Skype are used for video lectures; both Google Docs and Dropbox are used for sharing documents.

As a STEM specialisation, the study programme requires smart materials, technologies and engineering systems, which can be studied in a modernised laboratory for testing the properties of construction materials:

- laboratory facilities and equipment for testing the properties of construction materials;
- new hardware suitable for specific software used in the construction sector;
- materials and equipment.

Students and lecturers can use a free WiFi system throughout the RBC premises. The number of students required to ensure a quality study process is 20 students per group, with a total of 60 students in all three courses.

Renovated fifth-floor lecture rooms for the study programme “Architectural Technology” have three group rooms equipped with interactive whiteboards, modern tables that can be adjusted in height and angle to facilitate work on projects and are used for group lectures and practical works. They

are also used as work spaces for independent work after the study process.

All the buildings and structures used by the RBC are the property of the MoES. The study programmes are implemented in Riga, at 3 Gaiziņa Street.

Facilities used by the RBC Study Programme "Architectural Technologist" for the implementation of the study process

A detailed assessment of resources and provision is presented in Part II, Clauses 2.3.1 through 2.3.3.

Additional information can be found in Part II, Chapter 3, Sections 2.3.1 - 2.3.3 of the Self-Evaluation Report of the Study Field and the Information can be found under the Report submitted by the Study Field.

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

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

To ensure the study process, the RCK uses both the state budget grant, its own revenue, and foreign financial assistance.

A detailed assessment of resources and collateral is presented in Part II, Points 2.3.1

The base costs of a student are determined annually after [12.12.2006 MK 994 "Procedures for Financing Institutions of Higher Education and Colleges from the Funds of the State Budget"](#) , apply the study cost coefficient of the thematic field of education "Architecture" 3,5.

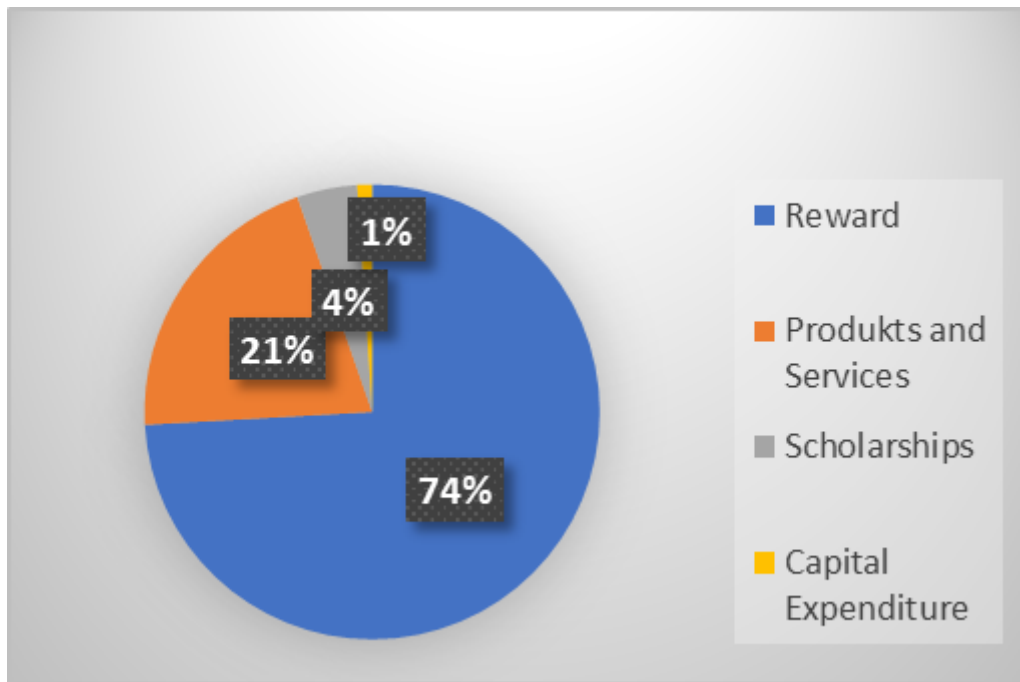
The base cost of one student in 2021 – EUR 1630.11. The social security costs of the place of study are EUR 265.50.

A study Agreement (Annex "[2.1.4. Study Agreements.pdf](#)" ) on the acquisition of education in a budget place or for a fee is concluded with each student. The tuition fee in the program "Engineering Systems" is EUR 1600.00 per year.

The sources of financing (revenue) of the study programme "Architectural technology" are funds allocated by the state (grants by coefficient and budget places) and own revenue. Own revenue consists of tuition fees and other revenue (from dormitory, rent of premises, paperwork, etc.)

Information on the costs per student within the framework of this study programme and the items included in the cost calculation, as well as the percentage distribution of funding between the

positions:



Taking into account the variable number of paid students in the program in each year of study (the changing situation of admission and budget places), it is not possible to determine the exact minimum number of students in the study program in order to ensure the profitability of the study program.

Study programmes "Architectural technology" are cost-effective, because the amount of state budget grants granted each study year and the tuition fee cover the costs of one student.

### 3.4. Teaching Staff

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

The lecturers involved in the implementation of the study programme "Architectural Technology" have a doctor's or master's degree and practical experience in their profession. The educational background of the lecturers teaching the specialised courses is relevant to the field of study courses to be administered. The main criteria for selecting lecturers are: field of education, scientific degree, professional work experience, research and creative activity, scientific publications, reports at conferences, communication skills, language skills, computer skills.

The main duties of a lecturer include:

preparation and implementation of the study course(s) in lecture rooms according to the college timetable; testing the knowledge and skills acquired by students in the study course using different types and forms of testing; promoting students' discussion skills and independent thinking, and guiding consultations; keeping up to date with the latest specialised literature and amendments to legislative enactments; supplementing library resources with the literature necessary for study courses; promoting scientific research performance; carrying out methodological teaching work; continuous improvement of teaching and scientific qualification, including through ERASMUS + mobility opportunities.

Academic staff is actively involved in research and creative work. The lecturers involved in the study programmes are very good specialists in their fields, who have participated in the development of study materials, books, as well as published results of their scientific researches in various scientific magazines and conference paper compilations, including international ones. The institution of higher education organises scientific and research conferences, in which the academic staff of the short cycle vocational higher education programme actively participates. Academic staff policy of the institution of higher education also includes improvement of scientific, professional and pedagogical qualifications at least on annual basis, i.e., to participate in scientific and training methodological conferences, to participate in scientific researches, seminars, development of methodological materials, including for e-studies in MOODLE environment, experience exchange events in Latvian and foreign institutions of higher education, acquirement of didactics courses of the institutions of higher education, etc. The work of lecturers is evaluated by taking into account the opinion of students on the lecturer's work, the content of the study course and its implementation in the study process, achieving the required level of knowledge and skills specified in the study course programmes. During the years under review, 31 lecturers were involved in the implementation of the field of study:

Qualification	Quantity		%	
	2020/2021	2021/2022	2020/2021	2021/2022
Assistant Professors	7	5	43.75	21.70
Lecturers	4	6	25.00	26.10
Assistants	-	-	-	-
Visiting Assistant Professors	-	3	-	13.00
Guest lecturers	4	8	25.00	34.80

Guest assistants	1	1	6.25	4.40
Total:	16	23	100	100

33 lecturers have been recruited during the three years of the programme "Architectural Technologies":

The teaching staff involved in the study programme "Architectural Technologies" are:

- Doctor's degree: 6 teaching staff
- Master's degree: 23 teaching staff
- Field specialists: 4 teaching staff

The academic qualifications of the lecturers in the study programme "Architectural Technologist" comply with the requirements of laws and regulations in the field of higher education (the Higher Education Institutions Law), the specifics and implementation conditions of the study programme, as well as the Riga Building College Regulations on Academic and Administrative Positions.

Qualification and professional development of teaching staff help to achieve study results, therefore Riga Building College encourages lecturers to improve their competence every year and share their successes with colleagues.

Lecturers' work with modern technologies is progressing and they are grateful for the support and opportunities provided to improve the study process. Moodle is an invaluable tool for collaboration, sharing and storing results, weekly communication and coordination. For teaching staff, Moodle is becoming a common way to communicate with students in relation to the learning process and didactic support of the course.

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

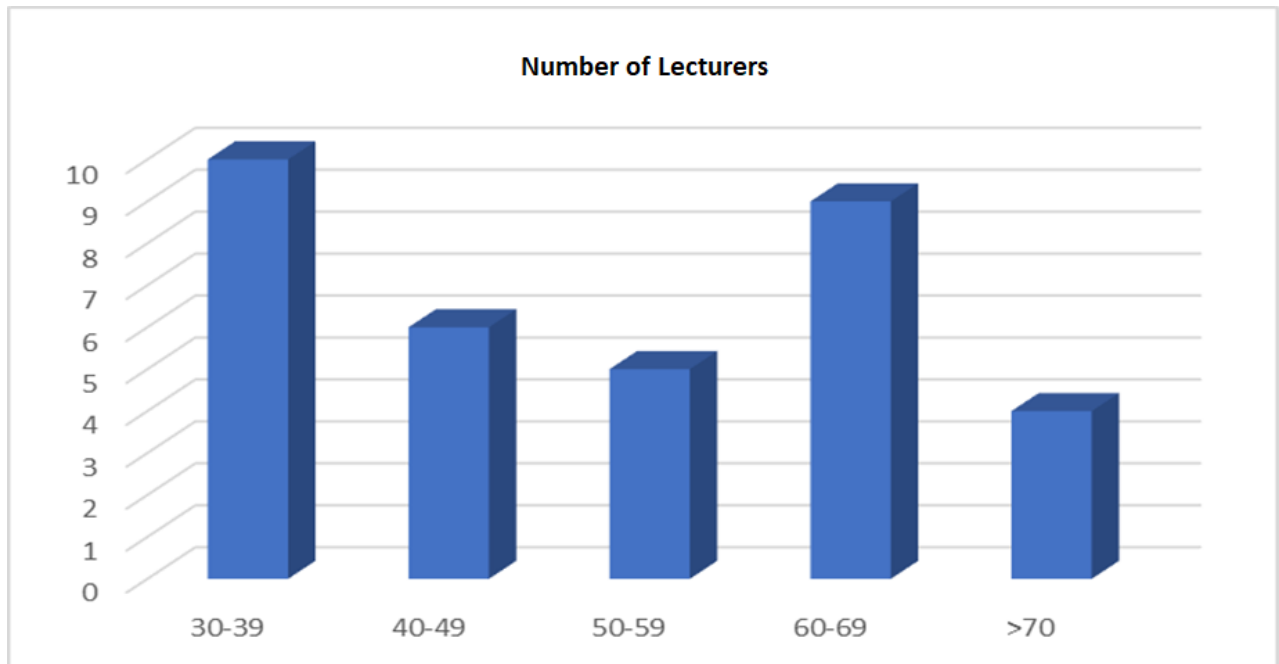


Figure: Distribution of lecturers by age groups in the study programme “Architectural Technology”  
The average age of lecturers is 51 years.

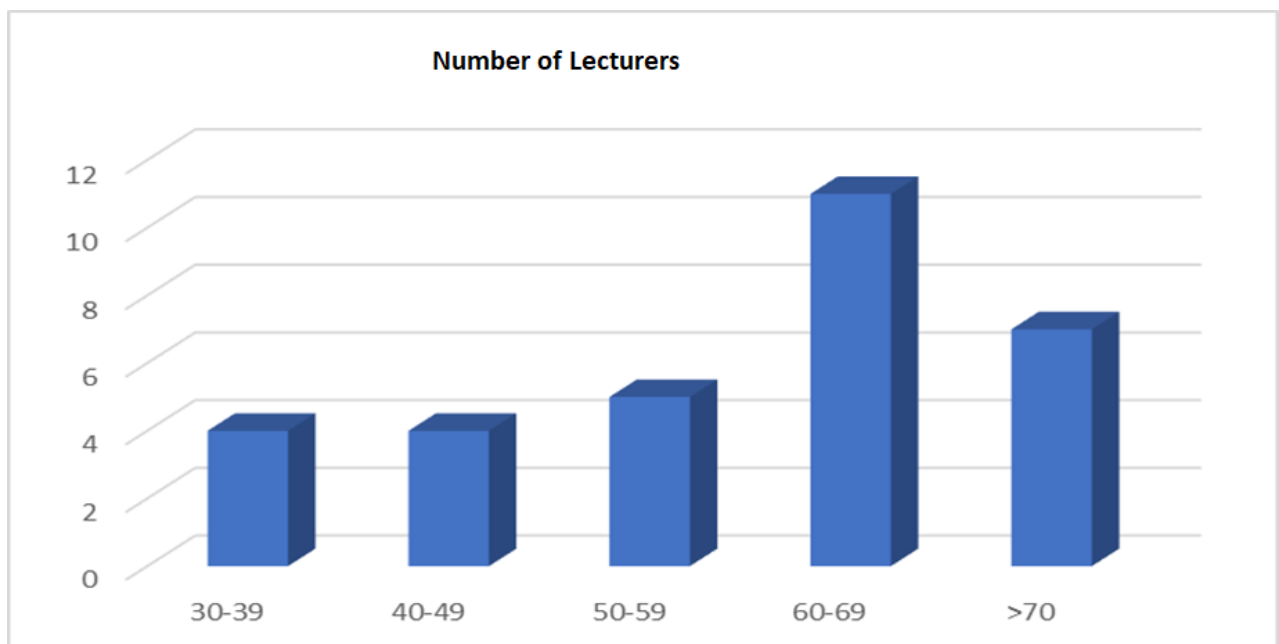


Figure: Distribution of lecturers by age groups in the study programme “Architecture”  
The average age of lecturers is 60 years.

The new programme “Architectural Technology” includes 50% change in the composition of lecturers, therefore a better result for the implementation of the programme has been achieved, since the lecturers have a good command of the latest technologies used in lectures and practical works.

The use of professional teaching staff improves the quality of the courses and provides students with a broader knowledge based on their previous professional experience. For example, a course on "BIM Basics" has been taught by Ingars Strazdiņš. Inga Roga has been hired as a lecturer for the study course "Building Engineering Systems, Process Digitisation".

The Quality Assessment Commission continuously evaluates the performance of lecturers in

accordance with the criteria developed in the internal rules on remuneration procedure:

- conducting applied research;
- participation in seminars, professional qualification improvement courses, further education, experience exchange trips;
- participation in international projects, advising of the incoming Erasmus students;
- methodological work, publications;
- study excursions, brainstorming sessions, creative projects — plein air events.

Lecturers' individual performance indicators, activities and achievements have an impact on remuneration levels.

**3.4.3. Information on the number of the scientific publications of the academic staff members, involved in the implementation of doctoral study programme, as published during the reporting period by listing the most significant publications published in Scopus or WoS CC indexed journals. As for the social sciences, humanitarian sciences, and the science of art, the scientific publications published in ERIH+ indexed journals or peer-reviewed monographs may be additionally specified. Information on the teaching staff included in the database of experts of the Latvian Council of Science in the relevant field of science (total number, name of the lecturer, field of science in which the teaching staff has the status of an expert and expiration date of the Latvian Council of Science expert) (if applicable).**

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

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

Selection criteria for the teaching staff involved in the implementation of the study programme are in accordance with the requirements of the study programme "Architectural Technologist" and the required specificity of the study courses. The qualifications, education, knowledge, work skills and creativity of the teaching staff ensure that the results of the study programme are achieved. Riga Building College ensures the improvement of qualification of teaching staff and involves lecturers of study courses in the promotion of research activities. As part of the independent work of the study



course, the lecturers encourage and lead students' applied research works related to the study course or qualification work. Teaching staff support and engage with suggestions on the study process and topics to be added to study programmes, issues to be covered in qualification papers and areas of applied research. Every month, the lecturers of the Study Programme "Architectural Technologies" meet to discuss current issues related to the study process, programme, lectures, qualification papers, student activities and proposals. Cooperation between lecturers is discussed and opportunities and meetings are planned, as well as group work on certain topics. Students develop Applied Researches on topics of interest and receive support from their teaching staff in creative and research activities for the topics related to the process of development of the qualification works (diploma projects).

#### Applied research topics

2020	2021
"Integrating Pets Into the Urban Environment"	"Vocation of Small-building Lifestyle and its Implementation in Latvia"
"Acoustic Panels"	"Specifics of Tattoo Parlour Design"
"Development Perspective of Dīvaliņa Meadow"	"Structures on and Near Water, Development Trends"
"Minimalism in Interiors"	"Mantel Chimney Solutions and Applications in Contemporary Architecture"
"Floating House"	"Trends in the Development of Heating Types in Latvia"
"Rusted Metal Panels"	"Principles of Autonomous House Construction in Latvia and Abroad"
"3D Printing Technologies in Construction"	"3D Printing. How Could 3D Printing Improve the Latvian Construction Industry?"
"Virtual reality as a Tool for Architects"	"Passive Buildings and Their Impact on Humans"
"Construction of Timber Frame Buildings in Latvia"	"Green Roofs for the Long Term in Latvia"
"Bouldering Kind of Sports, Architectural Solutions"	
"Seaside Recreational Opportunities on Mangaļsala"	
"Assessment of the Public Outdoor Space of the Ulbroka Mill Lake and its Development in the long term"	

The College's teaching staff consists of lecturers who regularly collaborate in the development of study processes, thus achieving interdisciplinary coherence and continuity in the development of students' knowledge and skills.

Selection and recruitment of the College lecturers is carried out in accordance with the [Regulations on Academic and Administrative Positions](#).

In accordance with the Architectural Technologist's professional standard (agreed on August 14, 2019, protocol No.5), the development of the study programme has taken into account compliance of the qualification of the teaching staff with the study programme and compliance of their education with the study course taught, as this is the only way to ensure the achievement of the required programme outcomes. A strong emphasis was placed on acquirement of the designing and building information modelling aspects.

Teaching staff support and engage with suggestions on the study process and topics to be added to study programmes, issues to be covered in qualification papers and areas of applied research. Every month, the lecturers of the Study Programme "Architectural Technologies" meet to discuss current issues related to the study process, programme, lectures, qualification papers, student activities and proposals. Cooperation between lecturers is discussed and opportunities and meetings are planned, as well as group work on certain topics.

Cooperation among lecturers is promoted in the lifelong learning seminars by exchanging new ideas in teaching experience and research. Teaching staff supports and engages with suggestions on the study process and topics to be added to the study programmes, issues to be included in diploma projects and areas of applied research.

Educational seminars are organised at the Riga Building College and the Latvian Association of Architects to promote cooperation among lecturers, develop digital and other competences and to ensure mutual connection of study courses, as well as to acquire current professional issues.

Lecturers are encouraged to improve their qualifications and are offered opportunities to attend lectures, guest lectures, seminars, excursions, conferences, webinars and competitions organised by the Architects' and Civil Engineers' Unions. Lecturers receive information about the opportunities and events offered in emails, Moodle, and on the College website.

Date	Name
9.06.2022	Conference "Urban Quarters — for Living, Education and Working in the Baltic States" BDCC.
9.06.2022	RBC, guest lecture "Sustainable Construction" L. Bernšteine
1.06.2022	Latvian Association of Architects in cooperation with Saint-Gobain seminar "Weber Facade Heat Insulation Systems and Finishing Solutions"
30.05.2022	Latvian Association of Architects in cooperation with VELUX on the continuing education website PKPP.lv lecture "Daylight from the Perspective of Art, Health and Design".

15.05. — 19.05. 2021	ERASMUS+ project “HiBi Wood”, “Design of a Wooden Multi-apartment Building” at the institution of higher education Wydział Architektury, Politechnika Krakowska in Krakow, Poland.
12.05.2022	Latvian Association of Architects in cooperation with CEWOOD factory tour and educational seminar in the first finished building of the new factory complex at Jaunlaicene, Alūksne Municipality.
30.04.2022	Latvian Association of Architects in cooperation with the association “Zaļās mājas” invites to watch the video lecture “ <a href="#">Load-Bearing Timber Structures – Types and Application in Modern Solutions</a> ” on the remote further education site <a href="#">PKPP.LV</a> .
11.04.2022	<i>Latvian Association of Architects Conference “Holistic Renovation of Modernism Housing” The conference is a part of a wider BAUA series of events. within the framework of programme of the series of events (organised by the Baltic Association of the Unions of Architects UIAUnion Internationale des Architectes/ International Union of Architects) <a href="#">Affordable housing</a>.</i>
4.04.2022	Latvian Association of Architects in cooperation with Remmers, lecture “Remmers Waterproofing for Old Buildings for Interior and Exterior Works” on the further education site PKPP.lv.
29.03.2022.	Latvian Association of Architects in cooperation with the association "Green Houses" on the further education site PKPP.LV lecture "Load-bearing Wooden Structures - Types and Application in Modern Solutions".
23.03.2022.	Latvian Association of Architects webinar "Miro, Airtable and Trello - Digital Tools for Project Management".
21.03.2022.	LAA in cooperation with CAPAROL on the further education site <a href="#">PKPP.LV</a> lecture " <a href="#">Finish Options for Insulated Facades</a> ",
14.03.2022.	Latvian Association of Architects in cooperation with DURAVIT and EVA-SAT on further education site PKPP.lv lecture " <a href="#">Maximum Comfort – SensoWash Starck f</a> ".
5.02.2022.	LAA webinar "Architectural Acoustics and Technologies" .
2.02.2022.	LAA webinar "Near-zero Energy Buildings. PHPP and energy performance calculation"
19.01.2022.	LAA in cooperation with <i>Knauf</i> webinar "Architectural Acoustics and Technologies". Lecturer - Andris Veinbergs, certified energy auditor and building acoustics expert.
11.01.2022.	Latvian Association of Architects further education site <a href="#">PKPP.LV</a> lecture " <a href="#">Business Forms and their Differences-which is the Most Profitable for Me?</a> "

26.11.2021.	RMMT Creativity and its role in our everyday lives. Techniques for developing creative thinking in teachers' pedagogical practice and teaching.
25.11.2021.	Latvian Association of Architects in cooperation with Saint-Gobain Facebook seminar on "FIBO Structural Design and Presentation of the New FIBO Assemblies Catalogue"
12.11.2021.	XXII Congress of the Latvian Association of Architects.
10.2021.	Lecture "Foundations of RA (Research activity) in colleges", Latvian Association of Colleges. T.Jundzis
4.10.2021.	Latvian Association of Architects in cooperation with SOPREMA on the further education website PKPP.lv lecture " <a href="#">SOPREMA Innovative and Sustainable Solutions for Roofs and Bridges</a> ".
29.09.2021.	Latvian Association of Architects in cooperation with Saint-Gobain seminar "Ventilated Facade Solutions for Insulation of Existing Commercial Residential Buildings".
20.09.2021.	Latvian Association of Architects in cooperation with SIA ARTIVA on the further education site PKPP.LV lecture " <a href="#">Professional Solutions for Building Performance, Health and Air Exchange</a> ".
13.09.-17.09.2021.	Latvia's 16th Architecture Schools Plenary IMANTA + ZOLITŪDE UNITED
11.09.-16.09.2021.	ERASMUS+ project "HiBi Wood", "Design of a Wooden Apartment Building" at the FH Campus Wien in Vienna.
02.09.2021.	Building Design and Construction Council (BDCC) conference "Sustainability in Architecture, Construction and Design 2021".
2.06.2021.	Latvian Association of Architects in cooperation with <i>Building Design and Construction association</i> on the further education site PKPP.lv conference " <a href="#">Urban Quarter Development - Lifestyle, Planning and Technology</a> ".
21.05.2021.	RTU (on further education) "3D technologies in raw data acquisition, processing, BIM model creation and construction control".
14.04.2021.	LAA webinar "Kingspan insulation high performance insulation - product updates and solutions".
02.12.2020.	Conference "Challenges in Industrial Construction 2020 - Interoperability of Architecture and Technology".
04.11.2020.	LAA in cooperation with Saint-Gobain seminar "Foundation Construction and Waterproofing of Private Houses" live webcast.

10.2020.	Burnout: how to avoid it and mitigate its effects. Latvian Association of Psychologists
28.09.-02.10. 2020.	Latvia's 15th Architecture School Plenary 2020 "OUT OF THE GREY AREA" or "Extraordinary Adventures on the Road from Zemitāni to Brasa".
16.09.2020.	LAA webinar "Innovations and Topics in Design and Construction of Lightning and Overvoltage Protection".
21.08.2020.	Education VAR, SIA Events: about the education system, seminar 6 hours.
24.07.2020.	Participation in competition "Sustainability in Architecture Construction Design 2020" with the entry "Interior concept for the RBC Act Hall"

At the time of submission of the self-assessment report (2021./2022.study year on June 29)

If the number of students (56 students) and teaching staff (24 lecturers) are added together, the total is (80 students and lecturers) and this sum is taken as 100%, then the ratio of teaching staff to students is 30 to 70, =42%

Cooperation between teaching staff is always successful, it improves the quality of studies, creates more interest in the study process and ensures the quality of the programmes. It takes the form of student exchanges, guest lectures and joint projects.

Lifelong learning seminars are also used to foster cooperation between lecturers, exchanging new ideas in teaching experience and research.

The lecturers of the study programme discuss issues related to the course content, coursework and qualification papers, agree on the topics, as well as discuss the latest developments in architecture and construction.

# Annexes

III - Description of the Study Programme - 3.1. Indicators Describing the Study Programme		
Sample of the diploma and its supplement to be issued for completing the study programme	3_1_2_AT_Diploma.pdf	3_1_2_AT_diploms_ar_pielikumiem.pdf
For academic study programmes - Opinion of the Council of Higher Education in accordance with Section 55, Paragraph two of the Law on Higher Education Institutions (if applicable)		
Compliance of the joint study programme with the provisions of the Law on Higher Education Institutions (table) (if applicable)		
Statistics on the students in the reporting period	3.1.4. AT Statistical data on students enrolled in the programme.pdf	3.1.4. Statistikas dati par studējošajiem Arh.teh..pdf
III - Description of the Study Programme - 3.2. The Content of Studies and Implementation Thereof		
Compliance with the study programme with the State Education Standard	3_2_1_AT_Compliance_with_the_State_education_standart.docx	3_2_1_AT_atbilstiba_valsts_izglitiba_standartam.docx
Compliance of the qualification to be acquired upon completion of the study programme with the professional standard or the requirements for professional qualification (if applicable)	3.2.1. AT relevance to the professional standard.pdf	3.2.1. AT atbilstiba profesijas standartam.pdf
Compliance of the study programme with the specific regulatory framework applicable to the relevant field (if applicable)		
Mapping of the study courses/ modules for the achievement of the learning outcomes of the study programme	3.2.1. AT Course Map.pdf	3.2.1. AT studiju kursa kartējums.pdf
The curriculum of the study programme (for each type and form of the implementation of the study programme)	3.2.1. AT study program plan.pdf	3.2.1. AT studiju plans.pdf
Descriptions of the study courses/ modules	3.2.1. AT Courses Descriptions.pdf	3.2.1. AT studiju kursu apraksti.pdf
Description of the organisation of the internship of the students (if applicable)	K11 Procedure for organising study internship Ver.1.0.pdf	K11 Mācību prakses organizēšanas kārtība Ver.1.0.pdf
III - Description of the Study Programme - 3.4. Teaching Staff		
Confirmation that the academic staff of the doctoral study programme includes not less than five doctors, of which at least three are experts approved by the Latvian Council of Science in the branch or sub-branch of science in which the study programme intends to award a scientific degree (if applicable)		
Confirmation that the academic staff of the academic study programme complies with the requirements specified in Section 55, Paragraph one, Clause 3 of the Law on Higher Education Institutions (if applicable)		