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**JOINT REPORT BY THE COMMITTEE FOR THE  
ASSESSMENT OF STUDY DIRECTION**

***ARCHITECTURE AND CONSTRUCTION***  
**AT RIGA TECHNICAL UNIVERSITY**

***ARHITEKTŪRA UN BŪVNIECĪBA***  
**RĪGAS TECHNISKĀ UNIVERSITĀTE**

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<b>Name of institution of higher education or college</b>	Riga Technical University
<b>Name of study direction</b>	Architecture and Construction
<b>Study programmes</b>	
Academic Bachelor Study Programme “Architecture” (43581)	
Academic Master Study Programme “Architecture” (45581)	
Professional Master Study Programme “Architecture” (47581)	
Doctoral Study Programme “Architecture” (51581)	
1st level Professional Higher Education Study Prog. “Civil Engineering” (41582)	
Professional Bachelor Study Programme “Civil Engineering” (42582)	
Professional Master Study Programme “Civil Engineering” (47582)	
Doctoral Study Programme “Civil Engineering” (51582)	
Professional Bachelor Study Programme “Transportation Engineering” (42582)	
Professional Master Study Programme “Transportation Engineering ” (47582)	
Professional Bachelor Study Programme “Geomatics” (42581)	
Professional Master Study Programme “Geomatics” (47581)	
Professional Bachelor Study Programme “Heat, Gas and Water Technology” (42582)	
Professional Master Study Programme “Heat, Gas and Water Technology” (47582)	
Doctoral Study Programme “Heat, Gas and Water Technology” (51582)	
1st level Professional Higher Ed. Study Prog. “Construction Management” (41582)	
Professional Bachelor Study Programme “Engineering of Regional Development and Urban Economics” (42581)	
Academic Master Study Programme “Innovative Road and Bridge Engineering” (45582)	
Academic Master Study Programme “Innovative Solutions in Geomatics” (45581)	
<b>Date of external assessment visit</b>	30 January – 4 February 2017

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## 1. INTRODUCTION

The aim of the Committee was the evaluation of the Architecture and Construction study direction at Riga Technology University. The task was performed by a detailed analysis of 19 programmes, which represent a significant proportion of such study direction programmes in Latvia.

The team were tasked to evaluate the study direction under the following headings:

- Management of the Study Direction
- Resources and Provisions of Study Directions
- Scientific Research and Scientific Research or Creative Work of Academic Staff and Students
- Cooperation and Internationalisation
- Quality Assurance and Guarantees

This was achieved by a detailed assessment of the conformity of 19 study programmes under the following 21 aspects:

- Appropriateness of programme title
- Appropriateness of admission rules
- Alignment of content with objectives
- Alignment of content with exit qualifications
- Evidence of state-of-the-art (Academic Bachelors/Masters/Doctorate only)
- Compliance of workload with credit awarded
- Traineeship quality (1st Level Profession, Professional Bachelors/Masters only)
- Appropriateness of module plan
- Distance learning availability and management
- Compliance with admission procedures
- Recognition of prior (non-formal) learning
- Quality of final theses as a reflection of achievement of learning outcomes
- Programme structure governance
- Quality control management
- Module descriptor governance
- Academic staff qualifications and skills
- Library and electronic resources
- Laboratories and equipment resources
- Investment management regarding infrastructure
- Sustainability of programme
- Extent of implementation of any previous recommendations

A standard questionnaire was used for each programme to record the evaluation in respect of these 21 aspects, using a template from Annex 10 to Cabinet Regulations of 14 July 2015 No. 407. An assessment using a scale of four points was used in the evaluation.

The overall findings for the evaluation of the study direction are presented in this report (Pages 6-15), followed by the detailed evaluation for each programme (Page 16-139), based on standardised template questionnaires. The recommendations following the evaluation of the study direction are presented in Section 4 (Page 140).

The following grade in points was used in the assessment of the study direction and in the assessment of each programme. For consistency the same grading scale was used for the study direction and in the assessment of each programme A grade of 4 is the best in each case.

### Scale of Assessment

Assessment (points)	Explanation of the assessment of the study direction	Explanation of assessment of study programme	Assessment (points)
4	In the context of the criterion to be assessed, the study direction is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of the assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of the assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required	<del>1.</del> 4
3	In the context of the criterion to be assessed, the study direction is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not detected. The deficiencies that have been detected can be easily eliminated	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated	<del>2.</del> 3
2	In the context of the criterion to be assessed the study direction meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate these shortcomings, as well as stakeholders' support and additional resources	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3.</del> 2
1	In the context of the criterion to be assessed, the study direction does not meet the minimum requirements, significant deficiencies prevail	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4.</del> 1

*[NOTE: this deviates from the template instructions in Annex 10 to Cabinet Regulations of 14 July 2015 No. 407, in which the scale was reversed for the programmes, when compared with the scale for the study direction].*

The process of external evaluation is not to judge a programme but to provide a constructive commentary from which areas to be further developed may be prioritised. Effective external evaluation is best performed in supporting the internal self-evaluation by the University. The findings of the external expert evaluation must always be considered as constructive recommendations and are offered in that spirit to RTU.

<b>Name</b>	<b>Signature</b>	<b>Date</b>
Prof. Spyros Amourgis	<i>Spyros Amourgis</i>	<i>28 March 2017</i>
Assoc. Prof. Mark G. Richardson	<i>Mark Richardson</i>	<i>28 March 2017</i>
Prof. Philippe Bouillard	<i>Philippe Bouillard</i>	<i>29 March 2017</i>
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<b>Study Direction</b>		
Architecture and Construction		
<b>Date of external assessment visit</b>		
30 January – 4 February 2017		

## 2. ASSESSMENT OF STUDY DIRECTION

### I. Management of the Study Direction

1.1. Is the inclusion of study programmes of the relevant study direction well-grounded? Is there any succession in the study programmes of various levels? Are the codes and types of study programmes relevant?

Assessment in grades 3	The study programmes of the study direction are appropriate except for the Masters in Architecture where the need to concurrently deliver an Academic and a Professional Master is insufficiently demonstrated. The succession from 1 <sup>st</sup> level or bachelors studies through masters to doctorate is in place. The title of the programmes in 'Heat, Gas and Water' could probably be reconsidered to better fit to international standards.
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1.2. Has the analysis of the strong and weak points, opportunities and threats of the study programme been performed in high-quality? Have the internal and external conditions for the development of the study direction been assessed unbiasedly?

Assessment in grades 3	The SWOT analysis is of good quality. It accurately captures most of the points of significance that concur with the findings of the Review Team. The strengths' include "international reputation" while the 'weaknesses' include the current infrastructure as being characterised as "discarded buildings and laboratories." The latter is a threat to the former. This must be recognised. In particular the infrastructure arrangements in Liepaja and Daugavpils are not fit for a Technical University of international standing. Regarding the study direction, the Review Team also noticed a lack of interdisciplinary learning activities which could enhance the students' learning experience. The assessment however revealed major weaknesses in terms of quality assurance, research or facilities which could have been better addressed by the self-evaluation report.
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1.3. Have the demands of the labour market taken into consideration in planning the development of the study direction and in its implementation?

Assessment in grades 4	The demands of the labour market have been fully taken into consideration. For every programme, evidence has been found that labour market representatives are, often informally, associated to the discussion on programme review. They are delivering some modules, invited as guest lecturer and contributing to theses and internships
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	supervision. A formal programme review process associating all the stakeholders should be implemented within an overall QA system.
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1.4. Is the management of the implementation of the study process effective for reaching the aims set for the study direction? Is it democratic, with clearly defined obligations and responsibility of the administrative staff, the academic staff, and students?

Assessment in grades 2	Little evidence of effective quality loops as part of the quality assurance process have been found, despite clear regulations. Quality assurance of a programme is achieved through many inputs. These are only effective if there is an associated quality enhancement loop associated with each input. That loop must be closed to achieve successful quality management. The situation is not satisfactory requiring, for example, the establishment of the B.I.I.G. initiative by students and industry to support management in addressing the extent of the resource and infrastructure deficits of some programmes.
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## II. Resources and Provisions of Study Directions

2.1. Are the financial resources sufficient for the implementation of the study programmes of the relevant study direction? Is the control over their use and sustainability ensured?

Assessment in grades 2	The financial resources are insufficient and all stakeholders informed the Assessment Committee of the negative effect of funding shortages. Annual public expenditure in tertiary education per student in Latvia is one of the lowest in Europe (according to Eurostat it is 11 times lower than in Sweden, 8 times lower than in Denmark, 7 times lower than in Germany, 3 times lower than in Portugal). It was clear from the condition and age of many buildings and laboratory equipment that funding was inadequate. Furthermore, many stakeholders noted that poor levels of staff remuneration was impacting on the quality of the programmes. Prioritisation and targeted investment is urgently required. National direction on prioritisation to meet the needs of the economy and society must be given to university management by the state if funding levels to the sector cannot be significantly increased.
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2.2. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of the study direction sufficiently high



for implementing high quality studies in the view of professional qualification in the respective field and the didactics of higher education? Is this professionalism appropriate for implementing study programmes of the relevant study direction? Do the members of teaching staff have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or separate parts thereof in a foreign language?

Assessment in grades 3	<p>The professionalism of the academic staff, despite significant economic restrictions on state funding of third level education, is admirable. They are delivering the study programmes to the best of their ability despite low remuneration and aging infrastructure, which has fallen well behind the state-of-the-art in practice. Innovation and interdisciplinary practice is a feature of current professional activity in architecture and civil engineering. However the aging academic staff cannot be expected to have the motivation to continually bring the state-of-the-art to their pedagogy if they are starved of resources.</p> <p>English language proficiency is generally good and could be enhanced further by an institutional commitment to support delivery of parts of the study programmes in English.</p>
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2.3. Do the descriptions of study courses, study materials, informative base, including library resources, comply with the aims of the study programmes to be implemented in the respective study direction, their type, particularly distance learning, and a language? Are any resources planned for expanding the library resources (acquisition of literature and subscribing electronic data bases)?

Assessment in grades 4	<p>Compliance is mostly evident.</p> <p>A better attention should be paid to the learning outcomes and the consistency with the corresponding learning methods and assessments.</p> <p>Distance learning is currently underestimated, particularly for the <i>extra-muros</i> campuses.</p>
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2.4. Are the methodological and informative provisions for the study direction, including a library, periodicals, and electronic resources, sufficient for implementing studies based on contemporary scientific findings and requirements for the professional field and for developing scientific research? Do they comply with the provisions of regulatory enactments that regulate the respective profession?

Assessment in grades 4 (Riga) 1 (Liepaja) 2 (Daugavpils)	<p>Despite funding restrictions the situation is satisfactory in Riga, mainly due to access to electronic resources. However the situation in the <i>extra-muros</i> campuses (Liepaja and Daugavpils) is deficient. For example, the space made available to the library in Liepaja is so restricted that not even their full collection can be left on open access and there is no reading room space.</p>
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2.5. Are library opening times convenient for students, and do its services, equipment, arrangement facilitate independent studies?

Assessment in grades 4 (Riga) 1 (Liepaja) 2 (Daugavpils)	The library facilities in Riga are adequate and have made the efforts to offer convenient opening times. The (library) resource room in the Architecture building is a very positive service to the students. It is unfortunately not the case in Liepaja and Daugavpils where urgent upgrade in library services is needed.
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2.6. Is the support by the administrative and technical staff sufficient to ensure that study outcomes are reached?

Assessment in grades 3	There is a significant shortage of technical staff and demonstration of specialised equipment relies on PhD students. This raises the issue of equipment maintenance, continuity and knowledge management jeopardising a sustainable model of laboratory management. RTU should urgently consider appointed lab managers. The administrative staff is committed and qualified to support the study outcomes but only up to the level of support possible in a situation where average funding to the sector from the state is grossly inadequate.
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2.7. Do the material technical provisions for the study direction, for example, specific laboratories, equipment, studios, comply with the requirements of the study programmes to be implemented in the framework of the study direction and to the development level of contemporary technologies? Are the study premises equipped with sufficient number of electricity outlets for students' portable computers?

Assessment in grades 1	The financial resources are insufficient and this is reflected in the standard of facilities. Annual public expenditure in tertiary education per student in Latvia is one of the lowest in Europe (Eurostat). The material technical provisions in the engineering laboratories does not always reflect contemporary technology. The situation is critical in some engineering studies and demonstration facilities of building materials and construction components are essential for architecture students.
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### **III. Scientific Research and Scientific Research or Creative Work of Academic Staff and Students**

3.1. Is the organisation and institutional structure of scientific research or creative work effective?

Assessment in grades 3	Whereas most of the academic staff is research active, contributing to scientific publications or congresses, their participation to research contracts, nationally or internationally, could be improved. The research administration could play a better informative and supportive role in that regard, helping the academic staff in designing and submitting research proposals.
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3.2. Are the resources allocated for research appropriate for the needs? Is the research (creation) work of the academic staff, including participation in scientific conferences or activities of artistic creation, planned in and paid for from the budget of the institution of higher education or the college?

Assessment in grades 2	There are sources of funding available internally and externally. Despite unified RTU policies, the Review Panel found evidence that research funding allocation may vary from one department to another. There are situations where academic staff must fund their own participation at international conferences, for instance, which is completely inadequate. RTU should consider an institutional policy to offer a certain baseline support to all the academic staff in parallel to its discretionary Research Support Fund.
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3.3. Is the research (creation) work of the students, including participation in scientific conferences or activities of artistic creation, planned in and paid for from the budget of the institution of higher education or the college?

Assessment in grades 2	RTU supports research activities of the students at all levels of studies from the university budget. There is ample evidence of involvement in the annual International Scientific Conference of RTU, especially by engineering students, and support was provided to students of architecture to attend a summer school. However less evident is support for participation in conferences overseas being systematically integrated into the programmes.
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3.4. Are topics of the scientific research work or creative work of the academic staff relevant and related to the content of the study direction in the respective study programmes?

Assessment in grades 2	The topics are usually relevant for the study direction, especially in Civil Engineering programmes. There are situations however in Architecture where the academic staff is engaged in very theoretical research whereas they are in charge of professional degrees.
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3.5. Are topics of the scientific research work or creative work of the students relevant and related to the content of the study direction and respective study programmes?

Assessment in grades 3	The students' research work, mostly performed during the master or PhD studies, are relevant for the study direction. Attention should however be paid to better search the international literature to analyse the state-of-the art.
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3.6. Have research outcomes been published in internationally available and reviewed editions (exhibitions, shows, performances, etc.) and used in practice?

Assessment in grades 3	The research is currently published in various international and national journals and conferences. RTU is editing some international journals or organising international conferences which is highly valuable. There is however significant imbalance between individual performances and RTU should consider stating KPI's in that regard, clearly reporting and commenting on them in future self-assessment reports.
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3.7. Is the study programme linked to related grants or projects?

Assessment in grades 3	The study programmes are often linked to ongoing research grants or projects. A better integration between research and education should however be considered.
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3.8. Other comments, if any, with regard to the implementation of science-based studies in the framework of the study direction.

Academic staff are engaged in (co-)editorship of journals, published by RTU and some of the journals are referenced in the international databases.	
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#### **IV. Cooperation and Internationalisation**

4.1. Do the students in the study direction have the possibility to acquire separate study modules, study courses, or take a traineeship (fully or partially) in the study programmes of other Latvian institutions of higher education or colleges?

Assessment in grades 3	The possibility to acquire credits in other Latvian institutions exists but no evidence of related experience has been found.
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4.2. Are there any possibilities to acquire separate study modules, study courses or take a traineeship (fully or partially) in the study programmes of foreign institutions of higher education or colleges, for example, are there any cooperation agreements

concluded on implementing joint study programmes or study modules, exchange of the academic staff?

Assessment in grades 3	RTU has signed many international agreements to offer their students Erasmus+ mobility exchange opportunities. Barriers however still exist, see Question 4.4. A very positive aspect is the recent development of joint degrees with VGTU (Vilnius, Lithuania). These programmes are delivered in English and could enhance RTU internationalisation strategy.
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4.3. Is the exchange of the academic staff and the implementation of other cooperation projects taking place?

Assessment in grades 2	The academic staff is also involved in Erasmus+ exchanges mostly based on their own willingness. Some are also involved in international research projects (H2020, COST). These experiences are valued by the academic staff also in terms of personal development. Here again, the situation is however imbalanced across the staff and RTU could gain by stating a clear policy.
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4.4. Is the international mobility of students, the implementation of ERASMUS and other cooperation projects ensured?

Assessment in grades 3	ERASMUS+ mobility processes in RTU are based on internal regulations which presume a thorough coordination of study courses and/or internship for the mobility period before ERASMUS Learning Agreement is signed. However there was evidence of a reluctance by students to consider ERASMUS opportunities lest it extend their overall period of study by one semester or by one year. Results of a special analysis performed by RTU show that none of all 102 students from 2012 to 2015 had extended study period due to ERASMUS mobility but take up progressively fell by 66% over the same period to very low levels.
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4.5. Does the cooperation with employers' organisations and other partners of cooperation leave any impact upon the implementation of the study direction?

Assessment in grades 4	Employers are represented on relevant curriculum committees. There is also good interaction with industry through lecturers from industry or placement opportunities. These interactions have a positive influence on keeping the curriculum relevant for the labour market.
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4.6. Other comments, if any, regarding the management of the study direction and cooperation with Latvian and international partners.

The study direction is supported by the regularity of international conferences hosted by RTU.
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## V. Quality Assurance and Guarantees

5.1. Does the quality assurance policy, its development and publicity, assessing, whether and to what extent comply with the following requirement: “Institutions of higher education and colleges shall develop policy for quality assurance, which shall be publicly available and form a part of the institution’s strategic management? Internal stakeholders shall develop and implement this policy, by applying appropriate structures and processes, and by involving external stakeholders.”?

Assessment in grades 2	RTU has a quality assurance process in place but a quality culture at institutional level has yet to become integrated in daily operations. Implementation needs to be improved across the full range of internal stakeholders to harness the value of the quality enhancement feedback loop.
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5.2. Does the development and approval of study programmes, continuous monitoring of the quality of study programmes, comply, assessing whether and to what extent with the following requirement: “An institution of higher education or a college shall establish mechanisms for the development and approval of study programmes. The programmes shall be developed in a way to make them comply with the aims that have been set, *inter alia*, the intended study outcomes. The qualification to be acquired in the programme shall be clearly defined and explained, and it shall refer to the correct level in the national qualifications infrastructure of higher education and, thus, also to the qualifications framework of the European Higher Education Area.”?

Assessment in grades 4	A formal approval system, from initiating department to Senate, is in place. For every programme assessed, the qualification was clear and referring adequately to the national qualification framework.
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5.3. Does the ensuring of a student-centred study process, the assessment of students’ performance comply, assessing whether and to what extent with the following requirement: “The institution of higher education or the college shall ensure that the study programmes are delivered in a way that encourages students to take an active role in the developing the study process, and the assessment of students shall reflect this approach.”?

Assessment in grades 2	Most of the teaching methods currently in use are based on classical lecture/tutorials model. There is little evidence that a paradigm shift from teaching to learning has been implemented. Student-centred learning activities should be
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	developed, starting with learning outcomes. RTU should consider developing such a policy with supportive measures (training, Faculty development office) to the academic staff. The improvement of the courses should be done with pedagogy in mind and design courses of active learning.
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5.4. Do the rules of admission, studying and graduation, procedures, their publicity and compliance, comply, assessing whether and to what extent, with the following requirement: “The institution of higher education or the college shall consistently apply pre-determined and published regulations covering all phases of to the student “life cycle” - –student admission, progression, recognition, and conferring the degree.”?

Assessment in grades 4	All the rules are clear and made publicly available. The admission, progression and recognition are consistently implemented. An appeal procedure is also available.
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5.5. Do the mechanisms for recruiting academic staff and their continuous professional development comply with, assessing whether and to what extent, with the following requirement: “An institution of higher education or a college shall assure themselves of the competence of its teaching staff. Fair and transparent mechanisms shall be used in staff recruitment and professional development.”?

Assessment in grades 3	Recruitment methods are satisfactory but the institution is put in a very difficult position by offering too low salaries and not up-to-date working conditions. Beyond attending the conferences and affiliation to professional bodies, there is too little attention to staff development in all categories (academic and administrative). RTU should consider implementing a robust staff development policy.
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5.6. Does the management of study information: acquisition of data and use thereof in decision taking comply with, assessing, whether and to what extent the following requirement: “The institution of higher education or the college shall ensure that it collects, analyses, and uses information necessary for effective management of study programmes and other activities.”?

Assessment in grades 2	Data capture is in place but use of the system is not yet fully developed. Despite the availability of at least 26 ready-made analytical reports, programme directors reported difficulty compiling the data for the self-assessment report. They are not monitoring the data in their decision making. This is a major weakness in terms of quality assurance.
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5.7. Does the public published information about the activities of the institution of higher education or the college, the content of information, ways of disseminations and

feed-back from society comply, assessing whether and to what extent with the following requirement: “An institution of higher education or a college shall inform about its activities (study programmes including). Information shall be clear, accurate, unbiased, relevant, and easily available.”?

Assessment in grades 3	If the qualitative information is made easily accessible to the public and is mostly relevant, there is a general lack of quantitative data regarding the number of students, the average duration of the studies, the staff/students ratio, the employment rate after graduation, etc.
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5.8. Does the periodic external quality assessment comply, assessing whether and to what extent comply with the following requirement: “An institution of higher education or a college shall conduct periodic external quality assurance.”?

Assessment in grades 4	The Review Team would like to point out the very positive attitude by RTU which already volunteered for an institutional accreditation (by EUA) and for this pilot experience by AIC. These periodic reviews will definitely support the institutional development and improve the quality assurance system.
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5.9. The implementation of recommendations received during the previous accreditation, if any.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management).
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### 3.1 ACADEMIC BACHELOR, ARCHITECTURE

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Academic Bachelor Study Programme “Architecture” (43581)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 3	The title ‘Academic Bachelor’ is misleading. This is a programme related to a profession. The programme offers the first 3 years of knowledge necessary, which with a further 2 years of study completes the 5 year minimum EU and international requirement to become a licensed Architect.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	Admission rules, generally determined by the government, seem appropriate.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 3	Yes, except Introduction and Fundamentals of Mechanics, which must be taught at the first year as pre-requisite courses before Structures courses are taught. There is no mention of Structures Courses for Concrete.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content complies, as it provides the first phase of architectural education. Students complete 3.5 years of education to achieve a Bachelor of Engineering Science in Architecture (B.Arch). This allows practical work under a certified architect and an appropriate educational basis on which to embark on the further study required for a licenced Architect. The qualifications framework is fully taken into account at national level (National Occupational Standard 2161 02, Annex 2 of the Cabinet of Ministers Regulation No.461, 18 May 2010) and the programme forms the first part of education regulated at European level (Directive 2005/36/EC, amended by European Directive 2013/55-CC).
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 4	The content complies with the most recent findings in architectural developments. The minimum requirement at this level, by national regulation, is exceeded by 5 CP.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The students' workload in the acquisition of the study programme complies.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 4	Yes they are. The programme plan is appropriately designed to develop creative and practical problem-solving skills, providing a general background and comprehensive knowledge for designing buildings in 3.5 years. The structure of the plan is both informed by and appropriately responsive to the intention of Cabinet Regulation No.240.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The final theses exhibited as evidence were of the standard required.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Responses from the management indicated that work was done with due process.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Yes they do.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Yes they do
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The staff are professional in their dedication to the implementation of the study programme but are somewhat hampered by the financial constraints that limits the development of their individual research profile to its full potential, without personal expenditure on conference attendance etc. The faculty speak English, or at least those we met. English Language courses are available to faculty, through a cooperation agreement with Riga Business School.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	All efforts are made to facilitate the student needs and the library annex in the Architecture building is a very positive measure for serving the student needs.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study

programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The building facilities and the studio spaces are very good and ample. The ambiance is very pleasant to work and study in. Regarding the laboratories there are no demonstration laboratories for building materials and construction components for the students to familiarize themselves with.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	These aspects proceed in accordance with the procedure approved by the management of the study direction.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	RTU is the prime source of training professional Architects in Latvia, and the flow of present numbers of graduating students is absorbed by the market. The employers did not mention that there was a problem of unemployment.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in Grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. Introduction and Fundamentals of Mechanics must be taught at the first year before Structures courses are taught. 2. Greater attention should be paid to Structures Courses for Concrete. 3. Demonstration laboratories for building materials and construction components need to be introduced for the students to familiarize themselves with these aspects of practice. 4. More possibilities of an interdisciplinary approach to aspects of the course should be explored between Architecture and Civil Engineering.	
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5. More emphasis should be placed on the efficient and most functional organization of buildings in the design work of the final thesis.
6. The students must consider the structural system of a building from early stages of their design studies, so that their final design exhibits a harmonious integration of the building structure with the plans and elevations.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

The aim for architectural education is to cultivate 'Creativity'. This can be taught, while innovation is something inherent and either one is innovative or not. Therefore architecture students must concentrate to show how they can create (design) by using the resources they have learned in their studies. If one is inventive all the better but one must still be accountable that what he/she creates is usable by humans!

### 3.2 ACADEMIC MASTER, ARCHITECTURE

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Academic Master Study Programme “Architecture” (45581)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders’ support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 1	The qualification conferred from this study programme (‘Master of Engineering Science in Architecture’) has the same name as RTU’s Professional Masters in Architecture, yet this ‘academic masters’ concept is not a programme that has international acceptance in the profession of architecture.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 1	The admission pre-requisite is a diploma in architecture or equivalent. However the aims and objectives of this programme are to equip graduates of this programme with the
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	qualifications and skills to be lecturers and researchers in the field of architecture. However lecturers and researchers of architecture should first and foremost be qualified as practitioners. Therefore the prerequisite for this specialist masters should be a professional master's degree in architecture and architecture qualification.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 1	<p>Most of the content of this 'Academic Masters' programme is framed from a broad range of subjects and directions, and is not well structured with a clear objective, such as in the comparable 'Professional Masters.' For example some of the broad range of the courses of the syllabus are "Regeneration and Design of Spatial Structures", "Property Evaluation and Taxation", "Prognosis in Regional Planning", "Interior of Residential and Public Buildings", "Genesis of Regional Planning in Latvia" etc</p> <p>If the objective is to help the students to do research then one would expect courses about research methodology, and useful tools as 'statistics' and how to objectively document information. Such courses would be offered in the first semester and the rest of the time would be devoted to research studies in their area of interest, with the possibility of taking more courses from other disciplines that are necessary for their research. For example, if the aim of a student of the Masters Courses is to study urban spaces, sociology courses would be useful.</p>
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 1	The programme content attempts to address the needs of future researchers and future lecturers in the subject area of architecture. However there are no significant modules in research methods. Equally 'pedagogy' only merits 2 CP. The content neither complies with the professional qualification and requirements of the profession, nor with that for those best qualified to be lecturers and researchers later.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 1	No it does not. The programme sets out to distinguish itself as a specialist programme in pedagogy and research methods in the field of architecture. The content of studies in pedagogy
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	and research methods are not informed by the state-of-the-art in these areas.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The university follows students' workload requirements.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 1	It is missing the content of the second half of the required education in architecture. If the intention of this programme is to educate people who want to teach or do research in architecture then this should be offered through the Professional Masters programme pathway, which will then have two directions: (A) for those who wish to become Licensed Architects and (B) for those who wish to follow an academic or research career. Direction (B) would then offer some additional appropriate courses, on top of those that they would have taken from (A), for the research-oriented candidates or those seeking academic positions.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 2	The admission of students may proceed in accordance with approved procedures but, for the reasons mentioned earlier, the admission requirements do not comply with the intended outcome. Put simply, if this highly specialist programme is worthy of being resourced in the constrained finances of Latvian higher education programme then the admitted students should be those who are already qualified as architects who, additionally have demonstrated a high standard of competence in subjects that provide evidence of their potential to be able researchers and high quality educators.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students involved in writing papers or involved in research are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 2	It will be understood from the answers to Questions 2, 3, 4, 5 above, that there is a systematic mismatch between the intended study outcomes of the programme and the programme admission requirements and taught components in respect of developing highly skilled researchers from the ranks of professionally qualified architects. Thus the final theses could not meet the expectations of the Expert Group.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Programmes follow standard internal procedures.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades	Programmes follow standard internal procedures.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Programmes follow standard internal procedures.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The faculty that the Experts met are seasoned academics and seem dedicated teachers. They also have the opportunity to improve their English through the arrangement with the Riga Business School. Nevertheless some academic faculty were facing for the first time a Masters in Higher Education and were not fully cognisant of the possibilities and constraints of master's studies.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The library serves all the programmes and elicited positive comments. Access to electronic resources is very positive
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	Generally the studios are fine and as mentioned there are ample drawing exhibition spaces. It would be useful to have more demonstration laboratories of building materials for example, and of building components as for example aluminium door and window profiles etc for the students to familiarise, and from plumbing and electrical and mechanical installations.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The new building facilities housing the architecture studies are very satisfactory, particularly work station places for students.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 1	It is an expensive experiment to offer an entire master's degree programme whose main objective is to prepare people for an academic career. Even in countries with large populations, the number of students attracted to the programme would not justify such an expense. This is especially so in countries with only a few universities that offer programmes in architecture.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. The programme does not complete the education of an architect and should be discontinued. It was an interesting idea theoretically to have a separate Masters for those that would like to pursue an academic career, teaching and research. However it is not practical and financially justifiable when there are more important needs in the under-funded third level education sector, when the needs can be addressed through addition of options in the Professional Master's programme.
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

There is no doubt that someone who wants to teach or do research will follow a distinct preparation path. Nevertheless there are some hard facts that must not be overlooked in this case. One is that architecture is a profession. Therefore in order to teach one must have full knowledge of what the students are learning plus the expertise on an
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area well above the average architect. It is not unlike Medicine where a medical Doctor teaches medicine as well as being an expert. It is unthinkable to practice medicine only knowing what the textbooks write without practising how to treat a patient. The best route for an academic is the professional masters followed by a doctorate.

### 3.3 PROFESSIONAL MASTER, ARCHITECTURE

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Master Study Programme “Architecture” (47581)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The course exists in tandem with the Bachelors programme thus completing the education that is necessary for a person to become a licensed Architect
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The admission rules include a Bachelor's degree in architecture, academic performance in the previous requisite studies and evidence of motivation. This represents a highly appropriate set of criteria for these professional studies.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The content of the courses offered at the Professional Masters programme are in logical sequence with most of the courses offered at the Bachelors level, thus appropriately raising the level of the knowledge of the courses taught earlier. The design courses advance the training of architectural design through more complexity or increase in scale, covering a wider variety of different building uses.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The aim and objectives of the programme comply with the degree and satisfy the international requirements for the professional recognition as “Architects” after 5 years training.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this ‘professional’ programme.
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6. Does the students’ workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The study program meets the theoretical and practical aspects of architectural education according to the EU Directives on the professional qualifications and comply with the requirements with National Occupational Standard 2161012”Architect” (Annex 2) of the Cabinet of Ministers Regulation No.461 as of 18 May 2010.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 4	Traineeship is aligned with the theoretical aspects of the programme and comply with the content. The objectives are clearly defined, transparent and controlled.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 4	The plan of the study programme complies as it has been stated in various previous related questions.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission is in accordance with the approved procedures. However as noted in comments earlier, it will be recommended that a requirement of high grades in design modules during the Bachelors programme should become a prerequisite for admission to the Professional Masters as well.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 2	Regarding this specific programme, RTU informed that there are not yet completed graduation projects (or final theses). The Review Team previously requested that the Department of Architecture organize a presentation of students work/projects. Instead there was an exhibition of student work only, without a presentation by the faculty. Based on this, the Review Team observed two areas that could be improved. Firstly education in the choice of structural system. Secondly, education in the
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	resolution of the effectiveness of the plans of the buildings, specifically internal circulation. These fundamental areas must be addressed generally in the Architecture School, and therefore apply equally to this programme.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Responses from the management indicated that work was done with due process.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Responses from the management indicated that work was done with due process.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The planning, supervision, development and update are part of the same process within the academic structure.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	The faculty that the Experts met are seasoned academics and are dedicated teachers. The faculty speak English, or at least those we met. English Language courses are available to faculty, through a cooperation agreement with Riga Business School.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The library serves all the programmes and elicited positive comments. Access to electronic resources is very positive
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	Generally the studios are fine and as mentioned there are ample drawing exhibition spaces. It would be useful to have more demonstration laboratories of building materials for example, and of building components as for example aluminium door and window profiles etc for the students to familiarise, and from plumbing and electrical and mechanical installations.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The new building of Architecture is a pleasant and luminous building with ample spaces for exhibiting student work to be seen by all students, something that is very important in architecture since students learn also from each other. As for procedures they could not have been done without the approval of the management of the study direction. The experts did not receive any contrary information.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	It seems that there is demand of professional architects. RTU is the only Public university training Professional Architects.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. Recognition of prior non-formal education or professional experience should be promoted to students in employment to help balance their workload between employer and study commitments.
2. Final projects should demonstrate greater competence in choice of structural systems and effectiveness of the plans of the buildings, specifically internal circulation.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

The main criticism is that in architectural design more emphasis must be placed in the choice of an appropriate structural system and the integration of the structure to the building concept, and that a building plan is foremost functional, meaning by that also pleasant to the user, instead of the focus being more on the formal and external appearance of a building.

### 3.4 DOCTORAL, ARCHITECTURE

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Doctoral Study Programme “Architecture” (51581)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Yes
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The enrolment requirements are appropriate, requiring a master degree, academic performance at the Masters, experience and quality of proposal.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 2	<p>The “A-Compulsory study courses” include the Architecture of Latvia, it is assumed that this is for candidates of other countries as any Latvian architecture graduate will have had those courses. The “B- Study Courses in the Special Field” seem arbitrary, History, Urban research, Ecology of Architecture Environment, Restoration, are a wide spread of subjects for no apparent reason. The “C Study Courses of Free Choices” are very limited.</p> <p>Normally depending in the area of specialization a Doctorate candidate should have a free choice of whatever courses are needed to learn more on the subject of the dissertation. The structure of the programme corresponds to the Regulation of the Senate of RTU Uniform Requirements to the Study Programmes and the programme also corresponds to the local demands set forth the study programme. However it would be very helpful to compare with other universities programmes and try to understand the manner in which they organize their post graduate studies. Particularly learn from universities with a long tradition in such studies. Another difficulty is that the Doctorate is quite different in the E.U countries as there was no Masters level, from the Bachelors, Masters and PhD of the Anglo-Saxon countries. The necessity for doctoral students to take all these courses is unclear.</p>
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 3	<p>The content of the programme should address two issues. The first is research methodology, courses that help the candidate in the technique of research, documenting data, statistical analysis etc The second is a set of courses that enrich the knowledge necessary in the selected area of research topic specialization.</p>
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 3	<p>The programme should keep track of the latest developments of Architecture and particularly through case studies nationally and internationally.</p>
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6. Does the students’ workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	<p>The doctorate studies do not have tight weekly schedules. It is understood that research cannot be interpreted easily as credit points.</p>
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 1	There is not a set study program for group teaching, as doctorate is mostly independent studies. The objective of the programme of the courses is not clear. The content of the courses is not self-evident. The courses must have a clear aim that is appropriate to the subject of the Doctorate and the required research.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission criteria of candidates to the programme are appropriate and admissions proceed in accordance with the approved procedures.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

N/A	Not usual for doctorate studies as most of the work is researching a subject.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	The number of students on the study programme is too low from which to extrapolate reliable statistically-verifiable findings. The approval of doctoral theses by external examiners is the main indication of quality. The graduation of one candidate, in the period examined by the Committee for Assessment, from the low number enrolled in that period is adequate evidence of a satisfactory situation.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	In accordance with university procedures.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	In accordance with university procedures.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	In accordance with university procedures.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	There is no doubt of the faculty members competence or their interest in teaching. It is practice to include a combination of very experienced and younger staff in research supervision, to ensure academic tradition conservation. Most of the faculty that the Experts met can speak English, but not all. However an opportunity to improve their English has been put in place, through an arrangement with the Riga Business School.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the

mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 3	Doctorate studies demand a well-stocked library, as the resources vary according to the subject chosen by each candidate. The references required for core learning in the Bachelors and Masters courses is easier to identify fully. Even though the library is trying to do a good job it still needs more funds to expand its resources.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The doctoral programme is less likely to accept topics for research that demand laboratory facilities. Those that exist are equipped for undergraduate teaching. Workstations for students are available in the Architecture building, as indeed is internet access.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The building facilities are adequate for doctoral studies.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	The need for academic faculty in Latvia does not appear great as there are few HEIs and research opportunities to sustain a high level of employment need.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. Instead of prescribing a number of random courses to leave open for the students to choose which courses they may be interested to take for their area of study or be advised to take courses that will be useful and necessary to their research regarding their Thesis, instead of the listed courses in the Doctorate Programme. At the most one can simply recommend maybe the headings of a few areas that are considered important for a student to choose to take a course.
2. The demand for Doctorates is not that great as the employment opportunities are few in a small country. There is a danger that in a small employment market some people in order to get a job may aim to earn more degrees in order to find employment and create an artificial inflation of redundant doctorates at a cost of over 20,000 Euros for a Masters and a Doctorate.
3. The course needs to improve tuition in research methodology and courses that enrich the knowledge necessary in the selected area of research topic specialization.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.5 1ST LEVEL PROFESSIONAL, CIVIL ENGINEERING

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### 1st level Professional Higher Education Study Programme “Civil Engineering” (41582)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Upon completion of the programme, the student obtains the first level in professional education and the fourth level in professional qualification for ‘Supervising Engineer in Transportation Engineering’. The name of the degree is fully compliant with the expected professional qualification. The content of the programme will be reviewed in Question 3 and 4 hereafter.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The admission rules are appropriate for the study programme.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 2	<p>Both programmes, delivered in Riga and Liepaja, have similar content with very few deviations. They will be considered as one hereafter.</p> <p>The main objective of the programme is to ‘train civil construction managers in transportation engineering’ with the aim to train future Road Construction Supervisors.</p> <p>The programme learning outcomes are written in too generic or vague terms (p. 152 or 253 of the self-evaluation report). As such, they could cover any field of study. They need to be urgently revised to accurately describe the specific knowledge, skills and competences developed by the programme. This revision should include a discussion of related learning methods and assessment.</p> <p>The programme contains several projects, which is highly relevant, but they cast into very small pieces (0.5 or 1 credit point) to allow the students to fully benefit from the experience. Grouping some of them or increasing the number of credits should be considered.</p>
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 2	<p>The learning outcomes related to road construction are adequately covered by the programme but there is a lack of modules related to the management skills and competences (project management, planning, cost estimation, procurement, human resources).</p>
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades N/A	Not applicable to this ‘professional’ programme
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6. Does the students’ workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	<p>Based on the discussion with students, graduates and academic staff as well as the review of coursework, there is evidence that the 40h workload per credit is ensured.</p> <p>RTU senior management would like to increase the teaching workload but the expert team recommends to make a better usage of personal work instead by developing active learning and student centred approaches.</p>
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There are two compulsory internships of 10 weeks each (2x10 credit points) planned in the 3rd and 5th terms respectively. The internship content seems quite satisfactory for both students and employers. The internship is evaluated and organised according to RTU Senate of 25 January 2010 "About organization of internship in RTU". The corresponding module descriptor however does not elucidate the learning outcomes nor the assessment, which is a major deficiency considering the importance of the internship in the study process. The internship is supposed to be supervised both by company supervisor and RTU academic staff. No clear evidence has been however found for the latter, except in the assessment process.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	As the programme learning outcomes are too vaguely defined, it is hard to assess if the programme is complying with them. The study plan however seems of very good quality considering the programme aims. Besides the management aspects already mentioned, there is also an urgent need to move to modern technologies like BIM (Building Information Modelling).
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning. Considering that this programme is delivered in the branch of Liepaja, RTU should consider developing such a method in order to improve the students' learning experience there through the use of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 1	The prior non-formal education or professional experience is not in place. As this programme has been developed to get a legal certification and that most of the students already have a significant professional experience, this should have considered and implemented.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The content of the final work is compatible with the study programmes aims, as confirmed by graduates and employers. A better attention should however been paid on the state-of-art beyond Latvia by accessing international databases and references.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	The programme is quite recent but there is little evidence of quality control mechanisms. Student surveys are collected but not systematically reviewed. The difficulty of running the programme concurrently in different locations with similar learning outcomes and quality has not been properly addressed. A better coordination with a single programme committee reviewing regularly the data (intake level, number of students, progression, achievement of the learning outcomes, learning assessment, etc.) should be implemented.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The development, update and use of study course descriptions are taking place in accordance with the procedure.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3 (Riga) 2 (Liepaja)	The situation is contrasted between Riga main campus and Liepaja branch. The dedication and professionalism of the academic staff cannot be questioned. However, considering the size of the Liepaja branch, it is very hard to maintain an academic staff expert in every topic. Moreover, the current staff is working mostly isolated from the Riga research centres and have less opportunities in terms of personal development, including attending conferences, and participation to collaborative projects. Considering the need for training according to international standards (Eurocodes, ISO), it would be relevant to develop and deliver some technical modules in English.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4 (Riga) 1 (Liepaja)	The situation is contrasted between Riga main campus and Liepaja branch. The IT facilities ensure that the staff and students can have the same access to electronic resources, which is very important, irrespective of location. The central library in Riga is really excellent in terms of availability of relevant references and opening hours. The situation in the Liepaja branch is not at all satisfactory. Its very limited space contains mostly out of date literature, in Latvian or Russian; reading room space is virtually non-existent and the space is so restricted that even minimal provision of open access material is not feasible. The working hours for the library are also inadequate for part-time students and need to be extended. Considering the very high quality of the library in Riga, there is an urgent need of upgrading the library in Liepaja if it is to be representative of an institution with the international reputation ambitions of RTU.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study

programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 2 (Riga) 1 (Liepaja)	<p>In the Liepaja branch, considering that new facilities were under construction, it has been impossible to review the full laboratory equipment. However, based on the laboratories visited in both locations, the available equipment is very old and does not allow appropriate training, even for the basics in science (physics, geodesy). A significant urgent improvement is required here as well. To avoid unnecessary duplication, RTU could consider sharing some of the equipment between the different locations (for geomatics related topics for instance) or organise day trips to RTU central laboratories in Riga.</p> <p>In Riga, the laboratories for basic scientific modules are well equipped and there is evidence that the students are appropriately trained in using the equipment. Specialised and modern equipment seems however restricted to master and doctoral students despite the need for college students to be trained on the most recent technologies as well, particularly in the fast changing sector of road construction.</p>
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3 (Riga) 2 (Liepaja)	<p>Riga facilities are good even if they require a clear upgrade which is planned. New facilities are being built in Liepaja as well.</p> <p>Even in temporary conditions, all the classrooms should however be equipped with modern equipment (PC with internet access, beamer).</p>
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	<p>There is no doubt that the employability for graduates of the programme is high. The possibility to continue the education in a related bachelor programme in Riga is an asset as well. Increasing the promotion of this specific programme is however required to ensure its sustainability in both locations.</p>
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	<p>The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations</p>
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	are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Revise the programme learning outcomes to accurately describe the specific knowledge, skills and competences related to the programme aims.</li> <li>2. Develop modules related to management and non-technical skills and competences.</li> <li>3. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>4. Develop and delivering modules in English to improve the international exposure to the state-of the art.</li> <li>5. Deliver part of the programme in the form of distance learning, particularly for the Liepaja students.</li> <li>6. Implement the recognition of prior non-formal education or professional experience.</li> <li>7. There is an urgent need to upgrade the laboratory equipment in Liepaja and to expose the students to the most recent technologies in both locations.</li> <li>8. The quality assurance system needs to be improved to deliver comparable quality programmes in both locations.</li> </ol> <p>Specific recommendation for the Liepaja branch:</p> <ol style="list-style-type: none"> <li>9. Improve the personal development opportunities for the academic staff.</li> <li>10. There is an urgent need to improve the library and to extend its opening hours.</li> <li>11. There is an urgent need to upgrade the facilities as planned.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

<p>This programme is delivered both in Riga and Liepaja. During the visit, we learned that the programme is available in Daugavpils as well but no information is provided in the self-evaluation report about it and as no students have been enrolled so far, the expert committee is unable to evaluate the Daugavpils version which should be considered out of the accreditation limit.</p> <p>From the review process and evidence gathered, the Committee would like to strongly express their concern about the quality of the programmes as currently delivered in the Liepaja branch. The minimal requirements are not reached to deliver them qualitatively and the Committee believe that unless the above mentioned recommendations can be considered and implemented, it will eventually have a significant negative impact on RTU's reputation.</p>
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### 3.6

## PROFESSIONAL BACHELOR, CIVIL ENGINEERING

### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Bachelor Study Programme “Civil Engineering” (42582)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain a Professional Bachelor Degree in Civil Engineering together with qualification as an Engineer in Civil Engineering. This permits them to apply for a licence as a civil engineer when they accumulate at least 3 years relevant experience after graduation.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 3	Students require a general secondary education or secondary professional education in civil engineering, together with the following subjects:
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	Mathematics and either Physics or a Foreign Language. This is a low threshold, given that a minimum grade in mathematics is not specified.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The aims and objectives of the study programme are to educate and train engineers for the industry and to prepare students for independent research, for example at master's degree level. This is fully met by the programme, which includes a final project of 13 CP (19.5 ECTS).
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the knowledge, skills and competences of an academic programme at Level 6 of the National Qualifications Framework and EQF.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme'
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 3	There is evidence that a significant proportion of the students are in employment during their studies, despite being full-time students. This is impacting negatively on their available study time, especially the autonomous learning associated with expectations of 'full-time' students.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is evidence that many students are employed during their studies and that their employment is used to meet the traineeship requirements of the programme without specific reference to all of the objectives of the module.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	To a considerable extent the plan and objectives align however there is evidence of some duplication of material with secondary school level and between modules of the course. The extent of laboratory practical learning is less than optimal to support theoretical learning.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 3	See Question 2. There is no evidence to suggest that admission of students is other than in accordance with the approved procedures and criteria
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The study outcomes have been reached and there is satisfaction with the final theses. It may be noted however that the overall standard of coursework was not as satisfactory.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	It takes place in accordance with the rules. Formal quality control measures are in place at the various levels but there was evidence that the quality enhancement feedback loop is not being closed effectively
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff is evident but it is clear that financial constraints in the higher education sector is restricting the resources necessary to adequately remunerate faculty and to support their ongoing research activities, including international conference participation. This will inevitably lead to problems in the implementation of high quality studies. The proportion of staff with proficiency in English language is high and ever-increasing.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 3 (Riga) 2 (Daugavpils) 1 (Liepaja)	The methodological and informative provision is adequate, mainly due to the availability of e-resources on ORTUS and high quality library in Riga. The on-site resources in the library at Daugavpils were good except in respect of international
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	publications. The on-site resources in the temporary accommodation in Liepaja are very poor and inadequate.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 2 (Riga) 1 ( Liepaja and Daugavpils)	The laboratory equipment available for studies at bachelors level is somewhat lacking in Riga. The situation is worse at Daugavpils. There are currently no teaching or research laboratories at Liepaja, where students must visit industry facilities for laboratory demonstrations.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2 (Riga) 1 ( Liepaja and Daugavpils)	Improvement of the infrastructure necessary for the implementation of programmes is not proceeding in accordance with the need, irrespective of any procedures approved by management. The infrastructure and facilities in Riga is serviceable but needs renovation. The infrastructure and facilities in Daugavpils is in urgent need of expansion and refurbishment. The infrastructure and facilities in Liepaja are effectively non-existent other than rented lecture theatres and computer rooms. The management expect that it will be a 3-year project to accommodate RTU Liepaja in new accommodation.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	Demand is cyclical but generally high. There is a threat to sustainability from demographics, especially in the regions, but demand is expected to be high enough to ensure sustainability overall. Concern must be expressed about demand in Liepaja, giving the absence of inspiring premises and the expectation that it will be a 3-year project to accommodate RU Liepaja in new accommodation
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations
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	are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>2. Develop and deliver modules in English to improve the international exposure to the state-of the art.</li> <li>3. Deliver part of the programme in the form of distance learning, particularly for the Daugavpils and Liepaja students.</li> <li>4. Implement the recognition of prior non-formal education or professional experience.</li> <li>5. There is an urgent need to upgrade the laboratory equipment to expose the students to the most recent technologies.</li> <li>6. The quality assurance system needs to be improved to deliver comparable quality programmes.</li> <li>7. Improving the personal development opportunities for the academic staff.</li> <li>8. There is an urgent need to upgrade the facilities as planned.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.7 PROFESSIONAL MASTER, CIVIL ENGINEERING

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Master Study Programme “Civil Engineering” (47582)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1.</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2.</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3.</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4.</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain a Professional Master Degree in Civil Engineering after 1 year study and a Professional Master Degree in Civil Engineering together with qualification as an Engineer in Civil Engineering after 2.5 year study. This permits them to apply for a licence as a civil engineer when they accumulate at least 3 years relevant experience after graduation.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	Students require a Professional Bachelor Degree in Civil Engineering or equivalent for 1-year study or Bachelor
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	Degree in Civil Engineering or equivalent for 2.5 year study programme. Compliance to the said prerequisites is one of the elements of the set study conditions, study goals and objectives.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The aims and objectives of the study programme are to educate students for independent research. This is fully met by the programme structures. The 1-year study programme includes a thesis of 20 CP (30 ECTS). The 2.5 year programme trains engineer for the industry and for independent research work.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the knowledge, skills and competences of an academic programme at this level in the National Qualifications Framework and EQF.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 3	There is evidence that a significant proportion of the students are in employment during their studies, despite being full-time students. This is impacting negatively on their available study time, especially the autonomous learning associated with expectations of 'full-time' students.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	The internship is evaluated and organised according to RTU Senate of 25 January 2010 "About organization of internship in RTU". The module descriptor however does not elucidate
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	the learning outcomes nor the assessment, which is a major deficiency considering the importance of the internship in the study process. There is evidence that many students are employed during their studies and that their employment is used to meet the traineeship requirements of the programme without specific reference to all of the objectives of the module.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 2	The structure of the programme corresponds to the Regulation of the Senate of RTU Uniform Requirements to the Study Programmes. However, the plan and objectives do not fully align due to duplication of material between modules of the course. The extent of laboratory practical learning is less than optimal to support theoretical learning.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 3	See Question 2. There is no evidence to suggest that admission of students is other than in accordance with the approved procedures and criteria
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The study outcomes have been reached. There is satisfaction with the final theses. It may be remarked that the overall standard of coursework was not as satisfactory.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	It takes place in accordance with the rules. Formal quality control measures are in place at the various levels but there was evidence that the quality enhancement feedback loop is not being closed effectively.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff is evident but it is clear that financial constraints in the higher education sector is restricting the resources necessary to adequately remunerate faculty and to support their ongoing research activities, including international conference participation. This will inevitably lead to problems in the implementation of high quality studies. The proportion of staff with proficiency in English language is high and ever-increasing.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the

professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The methodological and informative provision is adequate, mainly due to the availability of e-resources on ORTUS and high quality library.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 2	The laboratory equipment available for studies is of greatly variable quality and some is very old. Considering the needs at master's degree programme level the lack of state-of-the-art equipment is unacceptable. Some laboratories are staffed by research students, who endeavour to demonstrate use of the equipment. However they cannot be expected to maintain the facilities. Investment is required.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	Improvement of the infrastructure necessary for the implementation of programmes is not proceeding in accordance with the need, irrespective of any procedures approved by management. The infrastructure and facilities in Riga is serviceable but needs renovation.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	Demand is cyclical but generally high. There is a threat to sustainability from demographics, especially in the regions, but demand is expected to be high enough to ensure sustainability overall.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the
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	process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>2. Develop and deliver modules in English to improve the international exposure to the state-of the art.</li> <li>3. Implement the recognition of prior non-formal education or professional experience.</li> <li>4. There is an urgent need to upgrade the laboratory equipment to expose the students to the most recent technologies.</li> <li>5. The quality assurance system needs to be improved to deliver comparable quality programmes.</li> <li>6. Improving the personal development opportunities for the academic staff.</li> <li>7. There is an urgent need to upgrade the facilities as planned.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.8 DOCTORAL, CIVIL ENGINEERING

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Doctoral Study Programme “Civil Engineering” (51582)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain an Academic Doctor Degree in Civil Engineering after 4 year study, obtaining 192KP (288ECTS) and defending the Doctoral Thesis.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	To start studies at the doctoral programmes, it is required successfully complete the RTU Master studies in Civil Engineering or other equivalent programme accepted by the Council of the Civil Engineering faculty.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The content of the study programme complies with the aims and objectives and to educate students for independent research and education job.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the knowledge, skills and competences of an academic programme at Level 8 of the National Qualifications Framework and EQF.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 3	Content is good but could be revised in respect of recent developments in the field of study and significant historical knowledge, for example BIM and a understanding of the pre-Eurocode documents used in the design and construction of most of Latvia's existing building stock.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 3	There was evidence that a significant proportion of the students are in employment during their studies, despite being full-time students. The financial pressures are evident from the statistics provided on the number of doctoral students enrolled compared to the number graduating, in the period 1997 to 2016. It is clear that at least half do not complete their studies in the prescribed period. External pressures must therefore be impacting negatively on their independent research time and thereby the workload per credit point.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The study programme is structured around 42 CP of structured modules in addition the 150 CP of the research thesis. The range of compulsory elective modules is wide and the requirement is to complete 21 CP, while the compulsory core modules only total 15 CP. Given that there is evidence of some duplication of material between other programmes' modules and the compulsory elective range offered on this course, consideration should be given to altering the credit balance between compulsory core and compulsory elective, given that doctoral students should have demonstrated some degree of specialist knowledge already in their admittance to undertake a particular research project.. The extent of specialist support for laboratory practical training in areas of specialist equipment use is not addressed in the study plan.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 3	See Question 2. There is no evidence to suggest that admission of students is other than in accordance with the approved procedures and criteria
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

N/A	Not applicable. Credit for non-formal prior learning would not be an expectation for doctoral students.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	The study outcomes have been reached and the final theses are satisfactory.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	It takes place in accordance with the rules. Formal quality control measures are in place at the various levels but there was evidence that the quality enhancement feedback loop is not being closed effectively
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff is evident but it is clear that financial constraints in the higher education sector is restricting the resources necessary to adequately remunerate faculty and to support their ongoing research activities, including international conference participation. This will inevitably lead to problems in the attraction and retention of world-class faculty to develop research centres of excellence, to support RTU's doctoral programmes. The proportion of staff with proficiency in English language is high and ever-increasing.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the



mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The methodological and informative provision is adequate, mainly due to the availability of e-resources on ORTUS and high quality library.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 2	The laboratory facilities and equipment are minimalist in respect of implementing bachelor's and master's degree tuition. This is not an adequate base on which to conduct cutting-edge research at doctoral level. A significant investment in state-of-the-art equipment to underpin high quality and in-depth research is required to support this programme.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	Improvement of the infrastructure necessary for the implementation of programmes is not proceeding in accordance with the need, irrespective of any procedures approved by management. The infrastructure and facilities in Riga is serviceable but needs renovation. The building facilities for teaching rooms and student workstations are adequate, the library includes digital references, however laboratory equipment for research is not adequate.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	Demand is cyclical but generally high. There is a threat to sustainability from demographics, especially in the regions, but demand is expected to be high enough to ensure sustainability overall.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations
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	are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

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| <ol style="list-style-type: none"> <li>1. Support needs to be provided for developing of research work and to young doctoral students to finish their doctoral thesis.</li> <li>2. There is an urgent need to upgrade the laboratory equipment to expose the students to the most recent technologies.</li> <li>3. Provide better availability to databases; literature and laboratory equipment.</li> </ol> |
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.9 PROFESSIONAL BACHELOR, TRANSPORTATION ENGINEERING

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Bachelor Study Programme “Transportation Engineering” (42582)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders’ support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Graduates obtain a Professional Bachelor Degree in Transportation Engineering and qualification for ‘Engineer in Transportation Engineering’. The content of the programme and professional qualification is fully compliant with the name.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 3	Students are required to have a general secondary education, including Mathematics and either Physics or a Foreign
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	Language. Students may also enter on completion of 1st level professional study in Transportation Engineering. It is surprising that a minimum score in mathematics is not a mandatory prerequisite for those entering from second level education. Successful completion of engineering studies requires a strong background in mathematics. A high score at second level is the only real evidence of this ability prior to admittance.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 2	The eight learning outcomes for the study programme are not sufficiently prescriptive to allow evaluation of the alignment of content with outcomes. This is a failing in the construction of the outcomes, rather than the content itself. The progressive development of specific knowledge, understanding, synthesis, design skills and professional competences needs to be reframed in a new set of aims and objectives.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The programme of 180 CP (270 ECTS) includes 120 CP (180 ECTS) of highway and traffic engineering together with the fundamental aspects of related civil engineering topics; 9 CP (13.5 ECTS) professional study courses; 26 CP (39 ECTS) practical placement; and 13 CP (19.5 ECTS) of bachelor thesis. The balance includes humanitarian studies and languages. The content of the 9 semester programme complies with the degree and qualification requirements.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 2	The module descriptors indicate that the contact hours of lectures, practical work and laboratories total over 2,200 contact hours, representing approximately 75% of the total structured workload. Thus the structured workload is approximately 40%, allowing 60% of autonomous learning per credit point. This is a reasonable norm, by international
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	standards. Discussion with all stakeholders and evidence of coursework indicates compliance with the minimum learning objectives of a benchmark of 40 academic hours per credit point (per 1.5 ECTS). However concern must be raised that competing demand from employment commitments could negatively impact on student engagement with their study hours. Part time studies are organized in such a manner that greater emphasis is made on student individual learning process with the use of distance learning elements in their study process. Given the high proportion of RTU students who are also in employment it would be wise to introduce measures to ensure compliance with autonomous learning workload expectations. This could perhaps be achieved through tools designed for monitoring distance learning engagement.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is a traineeship of 26 CP, which thus represents a significant part of this professional course. The placement is spread over 4 of the 9 semesters. Internship in RTU is organized in accordance with the Decision of RTU Senate of 25 January 2010 “About organization of internship in RTU”. The goals and objectives listed in the module descriptor fail to set out specific objectives for each of the four periods. The arrangements for interim assessment and monitoring of the placement is not set out. Many students are employed during their studies and their ‘traineeship’ takes place as part of this without specific reference to academic staff supervising the relationship between their tasks in employment and the objectives of the module. This is less than optimal.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The eight learning outcomes for the study programme are not sufficiently prescriptive to allow evaluation of the alignment of the study plan with outcomes. This is a failing in the construction of the outcomes, rather than the plan itself. It may be stated that an objective is to ensure that the plan produces graduates with the attributes required to comply with Cabinet of Ministers Regulation No.152 and Occupational Standard Classification Code 2142 29 (‘Transportation Engineer’) and
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	that this is achieved. The module plan and sequence is coherent except that Traffic Flow Theory is only covered to 4 CP and comes late in the programme (Year 4). In addition the impact of highway engineering on so many aspects of quality of life, urban and regional development, and national economic growth is such that more time should be devoted to humanities and social science subjects, which currently account for only 2 CP.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	Admission is in accordance with the regulations approved by RTU Senate. The admission requirements comply with the procedures and criteria.
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12. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	There is satisfaction with the programme from graduates and employers.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been developed according to internal regulations and procedures are in place for the ongoing governance of updating of the programme.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	Formal quality control measures are in place at the levels of Office of Vice-Rector for Academic Affairs, RTU faculty and department level, programme administration and through the RTU Study Management System. Additional feedback is available from individual academics and the student self-government. However there was evidence that the quality enhancement feedback loop is not being closed effectively. Greater emphasis of the quality control system as a quality enhancement system needs to be implemented to ensure its usefulness. A KPI of success in this regard would be increased participation rates in students' surveys.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The study course descriptions has been developed according to internal regulations and procedures are in place for the ongoing governance of updating of the descriptions.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff, despite significant economic restrictions on state funding of third level education, is admirable. Their professional qualifications are appropriate (95% hold masters or doctoral degree) and they are research active. This includes COST actions, state projects and joint partnership with VGTU (Lithuania) and TUT (Estonia) in the publication of the internationally indexed 'Baltic Journal of Road and Bridge Engineering'. They engage to the best of their ability with international conferences, despite funding restrictions. English language proficiency is good and could be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The resources, including ORTUS (RTU on-line learning management system) and the central library in Riga are excellent. There has been a drop off in visits to the library by engineering students but this is probably simply a reflection of the successful migration of users to on-line resources, as learning styles adapt.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The study programme is implemented at the RTU Institute of Transport Structures. The facilities are good but are quite dependent on the attraction of funding from research and development grants. A more stable funding model is required to assure maintenance of state-of-the-art technical provision from central RTU budgets.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	The infrastructure is being maintained and improved in accordance with procedures. However as a general point it should be noted that the current level of state funding to the study direction of architecture and civil engineering is a cause for concern.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	There is very strong demand for graduates of this programme and the demand will increase for many years to come. Latvia, as with many other countries, is reliant on high quality highway infrastructure to enhance competitiveness and thus grow the economy. National economic restrictions, particularly a funding shortfall in highway infrastructure over the last decade, has failed to keep pace with growing traffic demands (volume and axle loads). Currently approximately
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	35% of roads are in a state of deterioration and 45% of bridges are in poor condition. The rate of deterioration continues to run at about 10% per annum. A National Roads Construction Programme (2014-2020) has committed €1,486.8 to reverse the decline. RTU has had a steady intake of 50 students per year to this study programme since 2010/2011 but total student numbers have progressively declined in the period from 245 to 175 currently. The graduate output has consequently declined from 100 in 2010/2011 to just 36 in 2015/2016. The world economic downturn in the period is a factor but this study programme is supplying a great national need and should be strongly promoted to high quality second level students. The sustainability of the programme is fully justified by the market demand.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Consider introducing a minimum score in mathematics as an additional mandatory prerequisite for those entering from second level education.</li> <li>2. The progressive development of specific knowledge, understanding, synthesis, design skills and professional competences needs to be reframed in a new set of aims and objectives.</li> <li>3. Given the high proportion of RTU students who are also in employment it would be wise to introduce measures to ensure compliance with autonomous learning workload expectations through tools designed for monitoring distance learning engagement.</li> <li>4. Revise the goals and objectives of the practical placement module with specific criteria for each of the four placement periods.</li> <li>5. Draw up formal agreements between the University and employers on the minimum requirements from the employers to meet the goals and objectives of the practical placement module and the arrangements for interim assessment and monitoring of the placement by academic staff.</li> </ol>
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6. Given the societal and environmental impact of highway engineering, increase the time devoted to humanities and social science subjects beyond the current level, which is just 2 CP out of 180 CP.
7. Recognition of prior non-formal education or professional experience should be promoted to students in employment to help balance their workload between employer and study commitments.
8. Place greater emphasis on the quality control system as a quality enhancement system by closing the feedback loop in all systems that constitute the quality control process.
9. English language proficiency of academic staff and students should be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

As a general point, the low level of remuneration of academic staff in the study direction of architecture and civil engineering was commented on by many stakeholders as a threat to maintaining high quality study programmes in Latvia to meet current and future needs in higher level education and in the labour market.

### 3.10 PROFESSIONAL MASTER, TRANSPORTATION ENGINEERING

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Master Study Programme “Transportation Engineering ” (47582)</b>

#### Scale of Assessment

	<b>Explanation of assessment of study programme</b>	<b>Assessment (points)</b>
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>4</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>3</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders’ support and additional resources.	<del>2</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>1</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Graduates obtain a Professional Master Degree in Transportation Engineering and professional engineer qualification in Transportation Engineering within 2.5 years. The content of the programme and professional qualification is fully compliant with the name.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	Students require a Bachelor Degree in Transportation Engineering to enter the 1-year course. Those with a
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	Bachelor Degree in Civil Engineering may enter a conversion course of 2.5 years to graduate with this graduate degree. This are appropriate admission rules.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The five learning outcomes for the study programme are appropriate for the aim of the programme and the content complies with the aim.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 3	<p>The 1-year programme includes 8 CP (12 ECTS) of advanced materials and analytical methods; 4 CP (6 ECTS) professional study courses; 6 CP (9 ECTS) practical placement; 2 CP (3 ECTS) of study in pedagogy and psychology and 20 CP (30 ECTS) of master's thesis. The content of the 2 semester programme complies with the degree and qualification requirements.</p> <p>The 2.5-year programme includes 8 CP (12 ECTS) of advanced materials and analytical methods; 21 CP (31.5 ECTS) professional study courses; 32 CP (48 ECTS) practical placement; 2 CP (3 ECTS) of study in pedagogy and psychology and 26 CP (39 ECTS) of master's thesis. The additional content is good for this lengthy conversion programme on top of a bachelor's degree qualification.</p>
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The module descriptors indicate that the contact hours of lectures, practicals and laboratories total over 220 contact hours, representing a structured workload of approximately 35%. Regarding independent research, 320 hours are devoted to the master's thesis. Discussion with all stakeholders and evidence of coursework indicates compliance with the minimum learning objectives of a benchmark of 40 academic hours per credit point (per 1.5 ECTS).
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is a traineeship of 6 CP in the 1-year course and 32 CP in the 2.5-year course, which thus represents a significant part of this professional programme. In the case of the 2.5-year programme the placement is spread over 4 of the 5 semesters. Internship in RTU is organized in accordance with the Decision of RTU Senate of 25 January 2010 "About organization of internship in RTU". The goals and objectives listed in the module descriptor fail to set out specific objectives for each of the four periods. The arrangements for interim assessment and monitoring of the placement is not set out. Many students are employed during their studies and their 'traineeship' takes place as part of this without specific reference to academic staff supervising the relationship between their tasks in employment and the objectives of the module. This is less than optimal.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The five learning outcomes for the study programme are reflected in the plan for both the 1-year and 2.5-year options. Approximately 10% of the credits for the 2.5 year programme are not easily correlated with the learning outcomes but the overall thrust of the plan is clear and appropriate.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	Admission is in accordance with the regulations approved by RTU Senate. The admission requirements comply with the procedures and criteria.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	There is satisfaction with the programme from graduates and employers.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been developed according to internal regulations and procedures are in place for the ongoing governance of updating of the programme.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	Formal quality control measures are in place at the levels of Office of Vice-Rector for Academic Affairs, RTU faculty and department level, programme administration and through the RTU Study Management System. Additional feedback is available from individual academics and the student self-government. However there was evidence that the quality enhancement feedback loop is not being closed effectively. Greater emphasis of the quality control system as a quality enhancement system needs to be implemented to ensure its usefulness. A KPI of success in this regard would be increased participation rates in students’ surveys.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The study course descriptions have been developed according to internal regulations and appropriate governance procedures are in place for the updating of the descriptions.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff, despite significant economic restrictions on state funding of third level education, is admirable. Their professional qualifications are appropriate (95% hold masters or doctoral degree) and they are research active. This includes COST actions, state projects and joint partnership with VGTU (Lithuania) and TUT (Estonia) in the publication of the internationally indexed 'Baltic Journal of Road and Bridge Engineering'. They engage to the best of their ability with international conferences, despite funding restrictions. English language proficiency is good and could be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The resources, including ORTUS (RTU on-line learning management system) and the central library in Riga are excellent. There has been a drop off in visits to the library by engineering students but this is probably simply a reflection of the successful migration of users to on-line resources.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The study programme is implemented at the RTU Institute of Transport Structures. The facilities are good but are quite dependent on the attraction of funding from research and development grants. A more stable funding model is required
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	to assure maintenance of state-of-the-art technical provision from central RTU budgets.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	The infrastructure is being maintained and improved in accordance with available budget and strategic priorities. However as a general point it should be noted that the current level of state funding to the study direction of architecture and civil engineering is a cause for concern.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	There is very strong demand for graduates of this programme and the demand will increase for many years to come. Latvia, as with many other countries, is reliant on high quality highway infrastructure to enhance competitiveness and thus grow the economy. National economic restrictions, particularly a funding shortfall in highway infrastructure over the last decade, has failed to keep pace with growing traffic demands (volume and axle loads). Currently approximately 35% of roads are in a state of deterioration and 45% of bridges are in poor condition. The rate of deterioration continues to run at about 10% per annum. A National Roads Construction Programme (2014-2020) has committed €1,486.8 to reverse the decline. This master's study programme has had a steady intake of 30 students per year since 2010/2011 with similar numbers of graduate output. This study programme is supplying a great national need. The sustainability of the programme is fully justified by the market demand.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.



1. Revise the goals and objectives of the practical placement module with specific criteria for each of the placement periods.
2. Draw up formal agreements between the University and employers on the minimum requirements from the employers to meet the goals and objectives of the practical placement module and the arrangements for interim assessment and monitoring of the placement by academic staff.
3. Recognition of prior non-formal education or professional experience should be promoted to students in employment to help balance their workload between employer and study commitments.
4. Place greater emphasis on the quality control system as a quality enhancement system by closing the feedback loop in all systems that constitute the quality control process.
5. English language proficiency of academic staff and students should be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

As a general point, the low level of remuneration of academic staff in the study direction of architecture and civil engineering was commented on by many stakeholders as a threat to maintaining high quality study programmes in Latvia to meet current and future needs in higher level education and in the labour market.

### 3.11 PROFESSIONAL BACHELOR, GEOMATICS

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Bachelor Study Programme “Geomatics” (42581)</b>

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 3	Upon completion of the programme, the student obtains the second level in professional education and qualification for ‘Engineer in Geodesy and Cartography’. The name of the degree is fully compliant with the expected professional qualification but the self-evaluation report gives confusing information about the aims of the programme which are first restricted to giving the opportunity to continue with a master programme and then offering a training for geodesists, surveyors and cartographers. Considering the possible job opportunities, more emphasis should be on surveying engineering. The content of the programme will be reviewed in Sections 3 and 4 hereafter.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The admission rules are appropriate for the study programme according to the self-evaluation report. Clear information should be made public on RTU website.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 2	The programme learning outcomes are written in too generic or vague terms (p. 274-275 of the self-evaluation report). As such, they could cover any field of study. They need to be urgently revised to accurately describe the specific knowledge, skills and competences developed by the programme. This revision should include a discussion of related learning methods and assessment.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 3	The programme adequately covers different aspects related to geodesy, cartography and surveying. A better balance by reducing the modules related to geodesy and increasing those related to surveying could be better aligned with the professional needs. The programme contains 2752 hours of training among which only 164 are of laboratory works. The Committee of Assessment clearly regard this as insufficient for a professional bachelor.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	Based on the discussion with students, graduates and academic staff as well as the review of coursework, there is evidence that the 40h workload per credit is ensured. RTU senior management would like to increase the teaching workload but the expert team recommends to make a better usage of personal work instead by developing active learning and student centred approaches.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is a compulsory internship of 26 weeks (20+6 credit points) planned in the 8 <sup>th</sup> and 9 <sup>th</sup> terms. The internship content seems quite satisfactory for both students and employers. The internship is evaluated and organised according to RTU Senate of 25 January 2010 “About organization of internship in RTU”. The corresponding module descriptor however does not elucidate the learning outcomes nor the assessment, which is a major deficiency considering the importance of the internship in the study process. The internship is supposed to be supervised both by company supervisor and RTU academic staff. No clear evidence has been however found for the latter, except in the assessment process.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	As the programme learning outcomes are too vaguely defined, it is hard to assess if the programme is complying with them. The study plan however seems of very good quality considering the programme aims. As already mentioned, there is a need to move to modern technologies like BIM (Building Information Modelling) and to better balance subjects related to geodesy and surveying. The sequence of the modules is coherent, except for the Fundamentals of Geomatics planned in the 3 <sup>rd</sup> term only. The part dedicated to non-technical modules is limited to 4 CP and should be increased.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

Assessment in grades N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted to applicants as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The content of the final work is compatible with the study programmes aims, as confirmed by graduates and employers. A better attention should however been paid on the state-of-art beyond Latvia by accessing international databases and references.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	If the procedures and IT system are already in place, little evidence was found that the learning process is supervised and monitored using data. Learning outcomes should be periodically reviewed based on the information and feedback gathered from the stakeholders. In particular, a better data collection should be organised about graduate employment and students should be encouraged to fill in the surveys as the participation rate is too low.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The development, update and use of study course descriptions are taking place in accordance with the procedure.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The dedication and professionalism of the academic staff cannot be questioned. Their professional qualification is fully relevant for the topic and they are active in research in related subjects. English language proficiency is good and could be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The IT facilities ensure that the staff and students can have the access to electronic resources, including ORTUS (RTU learning management system). The central library in Riga is really excellent in terms of availability of relevant references and opening hours.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The laboratories for basic scientific modules are well equipped and there are evidence that the students are appropriately trained with them. Specialised and modern equipment are available as well, including for field work. The number of hours of practical hands-on training needs however to be increased.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	Riga facilities are good even if they require a clear upgrade which is planned. All the classrooms should however be
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	equipped with modern equipment (PC with internet access, beamer).
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	There is no doubt that the employability for graduates of the programme is high. A better monitoring of the graduate employment would allow the academic staff to remain motivated. The possibility to continue the education in a related master programme in Riga is an asset as well. Increasing the promotion of this specific programme is however required to ensure its sustainability.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Better articulate the aims of the programme which are currently a bit confused.</li> <li>2. Revise the programme learning outcomes to accurately describe the specific knowledge, skills and competences related to the programme aims.</li> <li>3. Better balance the modules related to geodesy and surveying.</li> <li>4. Increase modules related to practical and non-technical skills and competences.</li> <li>5. Developing the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>6. Develop and deliver modules in English to improve the international exposure to the state-of-the-art.</li> <li>7. Implement the recognition of prior non-formal education or professional experience.</li> <li>8. Enhance the quality assurance system by periodically reviewing the learning outcomes based on the information and feedback gathered from the stakeholders.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.12 PROFESSIONAL MASTER, GEOMATICS

#### VI. Assessment of a Study Programme

<b>Architecture and Construction in Riga Technical University</b>
<b>Professional Master Study Programme “Geomatics” (47581)</b>

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>4</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>3</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>2</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>1</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Upon completion of the programme, the student obtains the third level in professional education in Geomatics. The name of the degree is fully compliant with the expected professional qualification and the self-evaluation report gives clear information on the aim of the programme combining professional training and possible preparation for further doctoral studies. The content of the programme will be reviewed in Sections 3 and 4 hereafter.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 3	To enter the programme, you need either a bachelor in geomatics/building/transportation/land planning or an academic bachelor in geography/computer science/environmental science. These rules seem relevant except the degree in computer science where it is very unlikely that the students will have the required prerequisites to enter the master programme. Additionally, clear information should be made public on RTU website.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 3	The programme learning outcomes are adequate and relevant. With respect to the programme aims, learning outcomes related to land planning are missing. Next step will be to articulate the programme to demonstrate how these learning outcomes are delivered and assessed.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 3	The programme covers different aspects related to geodesy, cartography and surveying but misses any content in land planning. The programme contains many repeated subjects from the Bachelor in Geomatics. While this is important for the students coming from other background, the programme should include a specialised study track for the student holding a bachelor in geomatics.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	Based on the discussion with students, graduates and academic staff as well as the review of coursework, there is evidence that the 40h workload per credit is ensured. RTU senior management would like to increase the teaching workload but the expert team recommends to make a better usage of personal work instead by developing active learning and student centred approaches.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is a compulsory internship of 6 weeks (6 credit points) planned in the second term. The internship content seems quite satisfactory for both students and employers. The internship is evaluated and organised according to RTU Senate of 25 January 2010 "About organization of internship in RTU". The corresponding module descriptor however does not elucidate the learning outcomes nor the assessment, which is a major deficiency considering the important of the internship in the study process. No evidence has been found that the internship is actually supervised by the academic staff.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The study plan seems of very good quality considering the programme aims, except the missing subjects on land planning. There is a need to move to modern technologies like BIM (Building Information Modelling). The programme appears to be very fragmented (courses from 1 to 3 credit points). The relevance of a course on pedagogy of 2 credit points is questionable.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 3	The admission requirements comply with the procedures and criteria and are relevant for the study programme, except for the bachelor degree in computer science.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The content of the final work is compatible with the study programmes aims, as confirmed by graduates and employers. A better attention should however been paid on the state-of-art beyond Latvia by accessing international databases and references.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	If the procedures and IT system are already in place, little evidence was found that the learning process is supervised and monitored using data. Learning outcomes should be periodically reviewed based on the information and feedback gathered from the stakeholders. In particular, a better data collection should be organised about graduate employment and students should be encouraged to fill in the surveys as the participation rate is too low.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The development, update and use of study course descriptions are taking place in accordance with the procedure.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in

the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The dedication and professionalism of the academic staff cannot be questioned. Their professional qualification is fully relevant for the topic and they are active in research in related subjects. English language proficiency is good and could be enhanced further by an institutional commitment to support delivery of part of the technical programme content in English.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The IT facilities ensure that the staff and students can have the access to electronic resources, including ORTUS (RTU learning management system). The central library in Riga is really excellent in terms of availability of relevant references and opening hours.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 4	The laboratories for basic scientific modules are well equipped and there are evidence that the students are appropriately trained with them. Specialised and modern equipment are available as well, including for field work.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	Riga facilities are good even if they require a clear upgrade which is planned. All the classrooms should however be equipped with modern equipment (PC with internet access, beamer).
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	There is no doubt that the employability for graduates of the programme is high. A better monitoring of the graduate employment would allow the academic staff to remain motivated. The possibility to continue the education in a related doctoral programme in Riga is an asset as well. Increasing the promotion of this specific programme is however required to ensure its sustainability.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Articulate the programme with the learning outcomes and include courses on land planning to be coherent with the aims.</li> <li>2. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>3. Develop and deliver modules in English to improve the international exposure to the state-of-the-art.</li> <li>4. Implement the recognition of prior non-formal education or professional experience.</li> <li>5. Enhance the quality assurance system by periodically reviewing the learning outcomes based on the information and feedback gathered from the stakeholders.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.13 PROF. BACHELOR: HEAT, GAS AND WATER TECHNOLOGY

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Professional Bachelor Study Programme “Heat, Gas and Water Technology” (42582)

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1.</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2.</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3.</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4.</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain Professional Bachelor Degree in Heat, Gas and Water Engineering Systems. Graduates are prepared to work in the field of heating, gas and water technology.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 3	Students require a general secondary education together with the following subjects: Mathematics and either Physics or a Foreign Language. However, there are no minimum requirements for enrolment.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The aims and the objectives of the study programme are to prepare engineers for the industry and independent research. Study programme content was found sufficient. This is fully met by the programme, which includes a final project of 12 CP (18 ECTS).
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the degree and competences of an academic programme at Level 6 of European Qualifications Framework and Latvian Qualifications Framework.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 3	It has been found that majority of students are employed. That could affect study quality badly if students are full - time.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 3	Placement amounts to 26 CP out of a total of 200 CP, representing a significant 13% of the study programme. There is a clear system for traineeship procedures. However the expert team has noticed that big part of students is employed during their studies and their employment is used to meet the traineeship requirements without specific reference to all objectives of the module. Closer on-site supervision by academic staff and intermediate joint assessment of progress against learning objectives should be conducted in collaboration with employers.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	There is evidence of some duplication of material between modules of the course, notably in respect of modules related to chemistry and to materials. The extent of laboratory learning is not sufficient to underpin the theoretical studies and could be improved.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	Not applicable. No part of the programme is delivered by distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	There is satisfaction with the final thesis. Graduates of the study programme and employers are satisfied with the study outcomes attained.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	The professionalism of the staff is not in question. Many are involved in research projects and are members of national committees. The number of staff with a high proficiency in English language is ever-increasing. It would be helpful to require the development and delivery of modules in English to improve exposure to the international state-of the art, for the benefit of both staff and students.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 3	The methodological material is sufficient. Students can find all required information on ORTUS platform. There is a modern library in Riga. Library has enough books, individual and group work places. Libraries in Liepaja and Daugavpils branches need improvement.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study

programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3 (Riga) 2 (Liepaja) 2 (Daugavpils)	The equipment in Riga was founded sufficient. However, it requires an improvement. Situation is worse at Liepaja and Daugavpils branches. Equipment is poor and requires changes.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3 (Riga) 2 (Liepaja) 2 (Daugavpils)	The infrastructure and facilities in Riga is sufficient but require to be renovated. Situation is worse in Daugavpils and Liepaja branches. Infrastructure must need urgent renovation.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	There is big demand of graduates by labour market. Employers are satisfied with graduates' knowledge.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1.	Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.
2.	Increase the extent of laboratory learning to underpin the theoretical studies.
3.	Develop and deliver modules in English to improve the international exposure to the state-of the art.
4.	Deliver part of the programme in the form of distance learning, particularly for the Liepaja and Daugavpils students.

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| 5. | Implement the recognition of prior non-formal education or professional experience.   |
| 6. | Urgently upgrade the laboratory equipment in Liepaja and Daugavpils to expose the students to the most recent technologies in both locations. |
| 7. | Improve the personal development opportunities for the academic staff.  |
| 8. | Extend the library opening hours.   |
| 9. | Upgrade the facilities as planned.  |

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.14 PROF. MASTER: HEAT, GAS AND WATER TECHNOLOGY

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Professional Master Study Programme “Heat, Gas and Water Technology” (47582)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain Professional Master Degree in Heat, Gas and Water Engineering Systems. Graduates are prepared to work in the field of heating, gas and water technology and continue their studies in Doctoral level.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	Applicants are required to have a professional bachelor degree in Heat, Gas and Water Technology or comparable education.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The aims and the objectives of the study programme are to prepare and educate specialists for further doctoral studies, train specialists to work in higher education institutions or labour market. The study programme content was found to be sufficient, not least through the learning outcomes of the final project.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the degree and competences of an academic programme at Level 7 of European Qualifications Framework and Latvian Qualifications Framework.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 3	It has been found that majority of students are employed. That could affect study quality badly in the case of full-time students.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 3	Placement amounts to 6 CP out of a total of 40 CP, representing a significant 15% of the study programme. There is a clear system for traineeship procedures. However the expert team has noticed that big part of students is employed during their studies and their employment is used to meet the
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	traineeship requirements without specific reference to all objectives of the module. Closer on-site supervision by academic staff and intermediate joint assessment of progress against learning objectives should be conducted in collaboration with employers.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The study content generally complies with the aims and objectives of the study programme but the extent of laboratory learning is not sufficient to underpin the theoretical studies and could be improved.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	There is satisfaction with the final thesis. Graduates of the study programme and employers are satisfied with reached study outcomes.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	The professionalism of the staff is not in question. Many are involved in research projects and are members of national committees. The number of staff with a high proficiency in English language is ever-increasing. It would be helpful to require the development and delivery of modules in English to improve exposure to the international state-of the art, for the benefit of both staff and students.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?



Assessment in grades 4	The methodological material is sufficient. Students can find all required information on ORTUS platform. There is a modern library in Riga. Library has enough books, individual and group work places.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The equipment in Riga was founded sufficient. However, it requires an improvement.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	The infrastructure and facilities in Riga is sufficient but require to be renovated. Faculty has plan of renovation.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	There is big demand of graduates by labour market. Employers are satisfied with graduates' knowledge.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>2. Increase the extent of laboratory learning to underpin the theoretical studies.</li> <li>3. Implement the recognition of prior non-formal education or professional experience.</li> </ol>	
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4. Develop and deliver modules in English to improve the international exposure to the state-of the art.
5. Deliver part of the programme in the form of distance learning, particularly for the Liepaja and Daugavpils students.
6. Urgently upgrade the laboratory equipment in Liepaja and Daugavpils to expose the students to the most recent technologies in both locations.
7. Improve the personal development opportunities for the academic staff.
8. Extend the library opening hours.
9. Upgrade the facilities as planned.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.15 DOCTORAL: HEAT, GAS AND WATER TECHNOLOGY

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Doctoral Study Programme “Heat, Gas and Water Technology” (51582)

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1.</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2.</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3.</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4.</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates obtain Doctor of Engineering Sciences degree. Graduates are prepared to work in the field of heating, gas and water technology and solve scientific tasks and work as lecturers, assistants, researchers at higher education institutions.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	Applicants are required to have a master degree in the field of Heat, Gas and Water Technology or other comparable education.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The aims and the objectives of the study programme are to prepare and educate specialists, who would be able to solve scientific tasks and work as lecturers, assistants, researches at higher education institutions and research institutes or could work at labour market. Study programme content was found sufficient. This is fully met by the programme, which includes a final Doctoral thesis.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content is well aligned with the degree and professional qualification.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 3	The content was found good but could be improved considering the newest researches, technologies and for example BIM implementation.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	Students' workload was found sufficient.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 4	The study content complies with the aims and objectives of the programme.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	The programme is not delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

N/A	Not usual for doctorate studies as most of the credit is for researching new knowledge
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	There is satisfaction with the final thesis. Graduates of the study programme and employers are satisfied with reached study outcomes.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Takes place in accordance with the rules.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades	Takes place in accordance with the rules.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	The professionalism of the staff is not in question. Many are involved in research projects and are members of national committees. The number of staff with a high proficiency in English language is ever-increasing. It would be helpful to require the development and delivery of modules in English to improve exposure to the international state-of the art, for the benefit of both staff and students.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	The methodological material is sufficient. Students can find all required information on ORTUS platform. There is a modern library in Riga. Library has enough books, individual and group work places.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	The equipment in Riga was founded sufficient. However, it requires an improvement. The research facility for heat and gas technology is situated remotely, which is a weakness regarding integration of such doctoral studies with the rest of the department and campus support facilities.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	The infrastructure and facilities in Riga is sufficient but require to be renovated. The management has in place a plan with Faculty for renovation.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 4	There is an ongoing demand for highly qualified staff in third level institutions, which is ever-increasing as competitiveness from international markets becomes greater. Employers are satisfied with graduates' knowledge.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. Upgrade the laboratory equipment.
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.16 1ST LEVEL PROFESSIONAL, CONSTRUCTION MANAGEMENT

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### 1st level Professional Higher Education Study Programme “Construction Management” (41582)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	Upon completion of the programme, the student obtains the first level in professional education and the fourth level in professional qualification for ‘Construction Manager’. The name of the degree is fully compliant with the expected professional qualification. The content of the programme will be reviewed in Sections 3 and 4 hereafter.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The admission rules are appropriate for the study programme.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 1	<p>Both programmes, delivered in Liepaja and Daugavpils have similar content with very few deviations. They will be considered as one hereafter.</p> <p>There are 5 objectives which are very fairly reached by the programme. The education in organisation and management of construction technological processes is not competitive and the competences do not meet the requirement of a Construction Manager as demonstrated in Section 4. The interest of the students to further continue is not stimulated as most of the students are already employed. The students are not trained for research and little encouraged to participate to international cooperation.</p> <p>The programme aims should be revised to be aligned with the particular context of students with prior professional experience.</p>
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 1	<p>The learning outcomes are extremely well designed. They are clear and relevant and could be shared as best practice in RTU. The programme however complies fairly with those. If we take into consideration that many expected learning outcomes refer to construction project management, there are not enough modules with that regard in the programme (currently, only one: "Planning and organisation of building construction", 2 credit points). Non-technical modules should be increased as project management involves many other aspects. Additionally, team projects should be implemented as well to train students in the ability to manage teams and projects. From the module descriptors, we could not find any tangible evidence that the expected learning outcomes are appropriately covered.</p>
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme'
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	Based on the discussion with students, graduates and academic staff as well as the review of coursework, there is evidence that the 40h workload per credit is ensured. RTU senior management would like to increase the teaching workload but the expert team recommends to make a better usage of personal work instead by developing active learning and student centred approaches.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 2	There is a compulsory internship of 16 weeks (16 credit points) planned in the 4 <sup>th</sup> and 5 <sup>th</sup> terms. The internship content seems quite satisfactory for both students and employers. The internship is evaluated and organised according to RTU Senate of 25 January 2010 “About organization of internship in RTU”. The corresponding module descriptor however does not elucidate the learning outcomes nor the assessment, which is a major deficiency considering the importance of the internship in the study process. The internship is supposed to be supervised both by company supervisor and RTU academic staff. No clear evidence has been however found for the latter, except in the assessment process.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 1	Based on assessment of the programme against the stated objectives, information from international standards and market trends, there is an urgent need to upgrade the programme by extending the training in project management, team work, construction methods, sustainability requirements for worksites and non-technical topics (currently limited to 2 credit points). Modern technologies or methods should be implemented as well: LEAN management, BIM (Building Information Modelling). Basic technical modules could be significantly reduced. It may however be noted that the programme meets all requirements set up by the Professional Standard for a ‘construction supervisor’ adopted by Regulations No. 461 (18.05.2010) of the Cabinet of Ministers. If RTU wish to adopt the Regulations lower objectives, then the programme’s documentation should be modified accordingly.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

Assessment in grades N/A	No part of the programme is delivered in the form of distance learning. Considering that this programme is delivered in the branches and that most of the students are part-time, RTU should consider developing such a method in order to improve the students' learning experience.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 1	The prior non-formal education or professional experience is regulated by "Recognition of study courses acquired at other institutions and higher education programs" adopted by RTU Senate on 26 March 2003. As this programme has been developed to get a legal certification and that most of the students have already a significant professional experience, these regulations should be further fostered and better implemented.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The content of the final work is compatible with the study programmes aims, as confirmed by graduates and employers. A better attention should however been paid on the state-of-art beyond Latvia by accessing international databases and references and to the use of modern tools.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been formally approved by the management according to internal regulations.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 1	There is little evidence of quality control mechanisms. Student surveys are collected but not systematically reviewed. The difficulty of running the programme concurrently in different locations with similar learning outcomes and quality has not been properly addressed. The programmes are supervised by a common committee which should review regularly the data (intake level, number of students, progression, achievement of the learning outcomes, learning assessment...) to ensure same quality in different locations.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The development, update and use of study course descriptions are taking place in accordance with the procedure.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 2	<p>The dedication of the academic staff to their institution and particularly their branch is very high. However, considering the size of the branches, it is very hard to maintain an academic staff expert in every topics. Moreover, the current staff is working mostly isolated from the Riga research centres and have less opportunities in terms of personal development, including attending conferences, and participation to collaborative projects.</p> <p>With the current staff, it will be difficult to implement a study programme in a foreign language in the branches, but considering the need for training according to international standards (Eurocodes, ISO), it would be relevant to develop and deliver some technical modules in English.</p>
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 1	The IT facilities ensure that the staff and students in the branch can have the same access to electronic resources, which is very important. No evidence was found however that students were trained how to adequately benefit from these resources. The libraries in both branches contained mostly out of date literature, in Latvian or Russian. The working hours for the library are also inadequate for part-time students and need to be extended. Considering the very high quality of the library in Riga, there is an urgent need of upgrading the libraries in the branches.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 1	In the Liepaja branch, considering that new facilities were under construction, it has been impossible to review the full laboratory equipment. However, based on the laboratories visited in both locations, the available equipment is very old and does not allow appropriate training, even for the basics in science (physics, geodesy). A significant urgent improvement is required here as well. To avoid unnecessary duplication, RTU could consider sharing some of the equipment between the different locations (for geomatics related topics for instance) or organise day trips to RTU central laboratories in Riga.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	In both locations, the modules can be delivered, even with temporary facilities while new ones are being built in Liepaja. However, based on the visit in both locations, the infrastructure requires a better maintenance. The heating system needs definitely to be upgraded in Daugavpils. All the classrooms should be equipped with modern equipment (PC with internet access, beamer).
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 2	There is no doubt that the employability for graduates of the programme is high, particularly in their respective region. However, the programme cannot be regarded as sustainable as most of the current students are actually practitioners looking for recently requirement legal certification. Once this set of students will be graduated, without any significant changes, it
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	will be very hard to maintain such a programme despite the employers' needs.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. The programme aims should be revised to be aligned with the particular context of students with prior professional experience.</li> <li>2. Develop modules about project management, team work and non-technical skills and competences.</li> <li>3. Develop the learning outcomes of the internship and better integration of it in the study process by implementing an academic supervision and appropriate assessment.</li> <li>4. The programme requires an urgent upgrade in technologies and management methods.</li> <li>5. Develop and delivering modules in English to improve the international exposure to the state-of the art.</li> <li>6. Deliver part of the programme in the form of distance learning.</li> <li>7. Implement the recognition of prior non-formal education or professional experience.</li> <li>8. The quality assurance system needs to be improved to deliver comparable quality programmes in both locations.</li> <li>9. Improve the personal development opportunities for the academic staff.</li> <li>10. There is an urgent need to improve the library in both locations and to extend their opening hours.</li> <li>11. There is an urgent need to upgrade the laboratory equipment.</li> <li>12. There is an urgent need to upgrade the facilities in both locations.</li> <li>13. The sustainability of the programme requires the implementation of these major changes.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

This programme is delivered in both branches (Liepaja and Daugavpils). During the visit, we learned that the programme is available in Riga as well but no information is
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provided in the self-evaluation report about it and as no students have been enrolled so far, the expert committee is unable to evaluate the Riga version which should be considered out of the accreditation limit.

From the review process and evidence gathered, the expert committee would like to strongly express their concern about the quality of the programmes as currently delivered in the branches. The minimal requirements are not reached to deliver them qualitatively and the expert committee believes that unless the above mentioned recommendations can be considered and implemented, it will eventually have a negative impact on the reputation of RTU.

### 3.17 PROF. BACHELOR: ENGINEERING OF REGIONAL DEVELOPMENT AND URBAN ECONOMICS

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Professional Bachelor Study Programme “Engineering of Regional Development and Urban Economics” (42581)

#### Scale of Assessment

	Explanation of assessment of study programme	Assessment (points)
	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>4</del> <b>4</b>
	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>3</del> <b>3</b>
	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>2</del> <b>2</b>
	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>1</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 1	The title of the programme is misleading due to inclusion of the word ‘engineering’. The word ‘engineering’ should be deleted to clarify that the programme is related to the profession of planning – and not engineering.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?



Assessment in grades 4	Enrolment is regulated as approved by the RTU Senate. The requirements are 'general secondary education or 4-year vocational secondary education.'
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 3	The program aims to prepare Regional Planners that can deal with Urban Economics. The content complies with the aims and objectives of the study programme and the planned study outcomes. Most of the titles of the courses are appropriate, however some recommendation emerge from Question 8 below.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 1	The content of the study programme does not comply with a degree which includes the word 'engineering' in the title. This is more a problem with the title than the content of this essentially planning profession programme however the issues cannot be separated. Changing the qualification title would remedy the mismatch between content and degree title.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

N/A	Not applicable to this 'professional' programme'.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The experts deduce from the information available that it is compliant.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

Assessment in grades 3	Placement amounts to 26 CP out of a total of 160 CP, representing a significant 16.25% of the study programme. There is a clear system for traineeship procedures. However the expert team has noticed that big part of students is
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	employed during their studies and their employment is used to meet the traineeship requirements without specific reference to all objectives of the module. Closer on-site supervision by academic staff and intermediate joint assessment of progress against learning objectives should be conducted in collaboration with employers.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The study plan complies with the aims and objectives of the study programme and the planned study outcomes. Most of the titles of the courses are appropriate. However there is no mention in the “infrastructures” a course about “Transportation Planning”. It is recommended that the course “Planning of Territorial and Urban Infrastructure (study project)” be re-titled “Transportation Planning”, since approximately 2/3 of the course volume is devoted to transportation. Although there is mention of “Micro” and “Macro Economics” there is no course for “Techno-economic Feasibilities Methods”.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The experts were not given any information to the opposite effect, and so it may be stated that the admission requirements comply with reaching of study outcomes and the admission of students proceeds in accordance with the approved procedures and criteria.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used.

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but “rarely used”. This
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	would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 4	The only information was from the graduates and employers, who were positive.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	It is done in a systematic manner.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Yes
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	Yes
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	For the first question the answer is that the impression of the Experts is positive. Regarding the English language, the number of staff with a high proficiency in English language is ever-increasing.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with

the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 2	The Experts were told that the budget for the library has increased. Still the books and professional periodicals are not enough.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 3	There are no great needs for technical provisions to teach this subject except some software i.e GIS etc and computer workplaces to exercise.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	Yes it is necessary, mostly the informative
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	In the short term the programme is sustainable through the needs of 119 municipalities in Latvia. However regional planning and development is mostly done in Europe by the profession of qualified planners. This programme of study could be redesigned as a Master's programme, as a specialist route for those who have a Bachelors in Economic studies, or it could be a Masters for Architects who want to specialize in Regional Planning, through appropriate adjustments of the teaching courses.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

1. The title of the programme must be changed by deleting the word 'engineering' to clarify that the programme is related to the profession of planning – and not engineering.
2. The title of the qualification / degree must be changed by deleting the word 'engineering' to clarify that the programme is related to the profession of planning – and not engineering
3. A revision of the curriculum should be considered with certain courses to be deleted as not directly essential (Physics, Sustainable Regional Energy, second course, and some economic courses that overlap as Public Sector Economics with Macroeconomics. On the other hand it is absolutely necessary to add a course that is not included on Transportation Planning (infrastructures of transportation).
4. Develop the learning outcomes of the internship and better integrate it in the study process by implementing an academic supervision and appropriate assessment.
5. Implement the recognition of prior non-formal education or professional experience.
6. The quality assurance system needs to be improved to close the quality feedback loop.
7. There is a need to upgrade the library resources.
8. It is recommended that a review be undertaken to see if this programme of study should be redesigned as a Master's programme. This could be as a specialist route for those who have a Bachelors in Economic Studies, or it could be a Masters for Architects who want to specialize in Regional Planning.

23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

The area of Latvia is not that large to establish in several locations Regional planning Authorities, as indeed the need for private Regional Planning firms are not that great either. So a Bachelors program can quickly satisfy the demands of the public and the private sector. A suggestion is at some point to consider to change the programme to a Masters that specializes either Economics majors with a Bachelor's degree or Architects or Urban Planning Majors with a Bachelor's degree to specialize with a Masters in Regional planning.

### 3.18 ACADEMIC MASTER: INNOVATIVE ROAD AND BRIDGE ENGINEERING

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Academic Master Study Programme “Innovative Road and Bridge Engineering” (45582)

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>4.</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>3.</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>2.</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>1.</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 4	The graduates are conferred with a master's degree in civil engineering. Being a joint programme (with VGTU) the co-operation agreement allows for two options on the format of diplomas and certificates. The content covers all significant issues in road and bridge engineering and fully complies with the qualification awarded.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	The admission rules are fully appropriate. The prerequisites for enrolment include a bachelor's degree in a relevant engineering discipline.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 3	The content of the programme is appropriate to the qualification but the aims and learning outcomes are somewhat generic. The content is appropriate but the wording of the aims and learning outcomes could usefully be more specific about 'road and bridge engineering design' rather than the more widely encompassing term 'transportation engineering'. The latter term is used internationally to refer to a wider field of study than this masters intends to embrace.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The content covers all significant issues in road and bridge engineering and includes a significant research element. The thesis accounts for one third of the credits, which allows development of independent research skills, a key learning outcome of the requirements of the qualification framework at this level. Graduates are recognised as having completed the requirements of Transportation Engineer Occupational Standard (Code 2142 29). The study programme exceeds the minimum requirements in respect of volume, practical innovations, research/creativity/design, and examination credit points. It is relevant to industry.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 4	The modules specifically include innovative techniques and processes. Teaching is informed by research, not least that published in 'The Baltic Journal of Road and Bridge Engineering', the editorship and editorial board oversight of which is closely linked to academics involved in delivering the programme.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	The relationship between credit points and workload is consistent across the module descriptors.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 4	The content covers all significant issues in road and bridge engineering design, material selection, safety management and planning to the level required. The research element is informed by research projects of relevance to Baltic issues and the wider European market, through COST Actions and liaison with national road authorities in several countries.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	The programme is delivered in VGTU and RTU with students spending at least one term of three at the university that is not their 'home' university. E-learning tools are used but distance learning as such is not yet part of the mode of course delivery.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements include prerequisites which ensure compliance with reaching of study outcomes. The admission of students is in accordance with standard procedures and criteria
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	The programme is at a very early stage of implementation and so insufficient data is available to date. However it is clear that many students must work in parallel to their studies to fund
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	their education. Consideration should be given to aligning professional experience with exemptions in certain areas.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 3	The graduates and employers were satisfied but the limitations on research projects for final thesis due to poor facilities needs to be addressed.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme has been developed and approved in accordance with RTU and VGTU requirements (agreement of 17 March 2014). The update of the programme take place in accordance with the procedure approved by the RTU management.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	The programme is conducted in accordance with procedures approved but the full impact of a closed-loop quality control system has not yet been fully harnessed in RTU. Quality control data is collected but not fully utilised.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 4	The programme is conducted in accordance with procedures approved.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 3	The professionalism of the academic staff of the institution, their qualifications and research activity is very high. However the poor level of remuneration was commented on by many stakeholders as an impediment to the maintenance of future high standards in the recruitment of new high calibre academic staff and the continuing professional development of current
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	staff. Lack of investment in research laboratory facilities will also negatively impact staff research profiles in years to come if not addressed. The number of staff with a high proficiency in English language is ever-increasing. It would be helpful to require the development and delivery of modules in English to improve exposure to the international state-of the art, for the benefit of both staff and students.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 3	The methodological and informative provision is adequate, mainly due to the availability of e-resources on ORTUS and high quality library in Riga. There is some desire for greater opening hours of the library due to the competing demands on student's time from work commitments. The prevalence of students with work commitments makes this a significant factor.
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 2	The laboratory facilities are barely adequate for research at master's degree level. There is evidence of ad-hoc development, contingent on external research awards, as opposed to a strategic plan for sustained investment in refurbishment, re-equipment and maintenance of laboratory facilities. Staffing of laboratories is often by graduate students. While their personal input to classes may be of high quality, they cannot offer the same level of service as full time technical support staff in respect of on-going contemporary technological development of laboratory facilities.
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	Adequate but in need of investment.
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	Demand for graduates is high but demographics are a general concern regarding the sustainability of the programme. Attraction of foreign students would require investment in facilities, especially refurbishment of teaching spaces and research laboratories.
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"><li>1. Implement the recognition of prior non-formal education or professional experience.</li><li>2. The quality assurance system needs to be improved to close the quality feedback loop.</li><li>3. Improve the personal development opportunities for the academic staff.</li><li>4. There is an urgent need to upgrade the laboratory equipment.</li></ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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### 3.19 ACADEMIC MASTER, INNOVATIVE SOLUTIONS IN GEOMATICS

#### VI. Assessment of a Study Programme

##### Architecture and Construction in Riga Technical University

##### Academic Master Study Programme “Innovative Solutions in Geomatics” (45581)

#### Scale of Assessment

No.	Explanation of assessment of study programme	Assessment (points)
1.	In the context of the criterion to be assessed, the study programme is on an excellent level. The performance is described by an excellent assessment in all issues subject to the particular criterion. Also on this, the highest level of assessment, some minor deficiencies could be detected in connection with the assessment criterion, for the elimination of which major improvements are not required.	<del>1</del> <b>4</b>
2.	In the context of the criterion to be assessed, the study programme is on a good level, complies with all requirements. Strong points dominate, and significant deficiencies are not observed. The deficiencies that have been detected can be easily eliminated.	<del>2</del> <b>3</b>
3.	In the context of the criterion to be assessed, the study programme meets the minimum requirements. The performance is described by a comparatively high proportion of deficiencies and significant shortcomings with respect to the specific indicator. Detailed planned long-term actions are required to eliminate the shortcomings, as well as stakeholders' support and additional resources.	<del>3</del> <b>2</b>
4.	In the context of the criterion to be assessed the study programme does not meet the minimum requirements, significant deficiencies prevail.	<del>4</del> <b>1</b>

1. Does the content of the study programme and the degree, professional qualification or the degree and professional qualification to be conferred comply with the name of the study programme?

Assessment in grades 3	Upon completion of the programme, the student obtains the third level in professional education in Geomatics. The name of the degree is fully compliant with the expected professional qualification and the self-evaluation report gives clear information on the aim of the programme combining professional training and possible preparation for further doctoral studies. It does not clearly state the specific character of this programme with respect to the ongoing Professional Master Study Programme “Geomatics” (47581). The content of the programme will be reviewed in Sections 3 and 4 hereafter.
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2. Are the admission rules of the study programme appropriate for the aims and objectives of the study programme?

Assessment in grades 4	To enter the programme, you need either a bachelor in geodesy/cartography/geomatics or equivalent. Though this is fully relevant, the difference in admission requirement with the Professional Master Study Programme “Geomatics” (47581) remains unclear. Additionally, clear information should be made public on RTU website.
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3. Does the content of the study programme comply with the aims and objectives set for the study programme?

Assessment in grades 4	The programme learning outcomes are adequate and relevant. There is an attempt to articulate the programme with the learning outcomes (pp. 710-711) which now requires a detailed analysis to demonstrate the listed courses actually contribute to the learning outcomes.
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4. Does the content of the study programme comply with the degree, degree and professional qualification or professional qualification (standard of profession) to be conferred, as well as to the requirements of the qualifications framework?

Assessment in grades 4	The programme covers different aspects related to geodesy, cartography, surveying and land planning. The programme contains some repeated subjects from the Bachelor in Geomatics.
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5. Does the content of studies in the programmes of academic and doctoral studies comply with the most recent findings in the respective branch of science?

Assessment in grades 4	The visit of the laboratories has demonstrated that the students are trained with the most recent equipment. The academic staff is active in research and in international projects.
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6. Does the students' workload in the acquisition of the study programme comply with the work of 40 academic hours per one credit point?

Assessment in grades 4	Based on the discussion with students, graduates and academic staff as well as the review of coursework, there is evidence that the 40h workload per credit is ensured. RTU senior management would like to increase the teaching workload but the expert team recommends to make a better usage of personal work instead by developing active learning and student centred approaches. No information is available on the workload in VGTU.
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7. Is the traineeship in professional study programmes related to the theoretical part and complies with its content? Has the organisation and the management of traineeship been developed in a study programme (if it is a professional study programme) in compliance with the aims of the study programme? Have the objectives of the traineeship been clearly defined, and are instructions and rules accessible and controlled?

N/A	Not applicable. This is not a 'professional' study programme.
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8. Is the plan of the study programme and the content of study courses, and modules of high quality, and comply with the aims and objectives of the study programme and the planned study outcomes?

Assessment in grades 3	The study plan is of very good quality considering the programme aims. The programme is jointly delivered in English by RTU and VGTU. Some courses seem to be repeated in both locations and little information is available on the courses delivered by VGTU and corresponding staff.
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9. In the case that the study programme is implemented in the form of distance learning, are there any specially structured study materials, an individualised pace of learning intended in the organisation of the study process, particularly an organised assessment of study achievements, as well as the use of diverse technical and electronic means of communication?

N/A	No part of the programme is delivered in the form of distance learning.
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10. Do the admission requirements comply with reaching of study outcomes and does the admission of students proceed in accordance with the approved procedures and criteria?

Assessment in grades 4	The admission requirements comply with the procedures and criteria and are relevant for the study programme.
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11. Is there any possibility to recognise prior non-formal education and professional experience, and is it used?

Assessment in grades 2	It was stated that recognition of prior non-formal education or professional experience is possible but "rarely used". This would seem to be a lost opportunity, given that many students are also in an employment sector directly related to their studies. It would seem that it is not strongly promoted as a possibility.
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12. Do the final theses or other indicators prove that the study outcomes have been reached? Is this approved by the graduates of the study programme and employers?

Assessment in grades 2	The content of the final work is compatible with the study programmes aims, as confirmed by graduates and employers. The master thesis however is not jointly organised and assessed by both partners. This is below international standards for joint degrees and needs to be urgently corrected.
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13. Does the development, approval and update of programmes take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	A joint study programme council with representatives from each partner has been organised. However, there is no clear evidence of joint approval process or joint mechanisms related to admission, examination or progression.
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14. Does the planning and supervision of the learning (study) process, the acquisition of the programme and quality control take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 2	If the procedures and IT system are already in place, little evidence was found that the learning process is supervised and monitored using data. Learning outcomes should be periodically reviewed based on the information and feedback gathered from the stakeholders. In particular, a better data collection should be organised about graduate employment and students should be encouraged to fill in the surveys as the participation rate is too low.
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15. Does the development, update and use of study course descriptions take place in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	The development, update and use of study course descriptions are taking place in accordance with the RTU procedure but needs to be integrated in a joint procedure with the partner.
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16. Is the professionalism of the academic staff of the institution of higher education or the college involved in the implementation of study programme sufficiently high for the implementation of high quality studies, in the view of professional qualification in the respective sector and didactics of higher education? Do the faculty members have sufficient level proficiency in English or in other foreign languages to prepare and implement a study programme or a separate part thereof in a foreign language?

Assessment in grades 4	The dedication and professionalism of the academic staff cannot be questioned. Their professional qualification is fully relevant for the topic and they are active in research in related subjects. The programme being delivered in English, some modules could be offered in Professional Master in Geomatics as well.
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17. Is the methodological and informative provision of the study programme, including library books, periodicals and electronic resources, sufficient for implementing studies based on relevant scientific findings and requirements of the professional field and for the development of scientific research? Does it comply with the provisions of regulatory enactments that regulate the respective professions? Is the mandatory literature included in course descriptions available at the library in sufficient quantity?

Assessment in grades 4	<p>The IT facilities ensure that the staff and students can have the access to electronic resources, including ORTUS (RTU learning management system).</p> <p>The central library in Riga is really excellent in terms of availability of relevant references and opening hours.</p> <p>No information is available about VGTU facilities and information system.</p>
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18. Do the material technical provisions for the study programme, for example, specific laboratories, equipment, studios, comply with the requirements of the study programme to be implemented in the framework of the study programme and the development level of contemporary technologies?

Assessment in grades 4	<p>The laboratories for basic scientific modules are well equipped and there are evidence that the students are appropriately trained with them. Specialised and modern equipment are available as well, including for field work.</p> <p>No information is available about VGTU.</p>
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19. Does the compliance and improvement of the infrastructure, informative and technical provision necessary for the implementation of programmes proceed in accordance with the procedure approved by the management of the study direction?

Assessment in grades 3	<p>Riga facilities are good even if they require a clear upgrade which is planned. All the classrooms should however be equipped with modern equipment (PC with internet access, beamer).</p> <p>No information is available about VGTU.</p>
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20. Is the study programme sustainable in view of the employment of graduates?

Assessment in grades 3	<p>There is no doubt that the employability for graduates of the programme is high. A better monitoring of the graduate employment would allow the academic staff to remain motivated. Increasing the promotion of this specific programme is however required to ensure its sustainability. So far, only 7 students are enrolled.</p>
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21. The implementation of recommendations (if any given) received in the framework of the previous accreditation of a study direction (if any) or licensing the study programme.

Assessment in grades 3	The nine recommendations from the previous accreditation of the study direction did not make any specific recommendation regarding a particular study programme. All recommendations are being addressed. One is fully implemented, seven are in the process of being constantly implemented, while one (increase state financial support) is beyond the remit of the programme management.
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22. Recommended measures and tasks to be mandatorily performed for eliminating the deficiencies and shortcomings that have been detected for the improvement and development of the study programme.

<ol style="list-style-type: none"> <li>1. Design and implement joint procedures in terms of programme management, learning outcomes, delivery and assessment, particularly for the master thesis.</li> <li>2. Improve the articulation between the programme and the learning outcomes.</li> <li>3. Consider including an internship.</li> <li>4. Implement the recognition of prior non-formal education or professional experience.</li> <li>5. The quality assurance system should be enhanced by periodically reviewing the learning outcomes based on the information and feedback gathered from the stakeholders.</li> </ol>
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23. Other information, comments by the committee for the assessment of a study direction or an individual expert.

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## 4. RECOMMENDATIONS

### 4.1 PERIOD OF ACCREDITATION

The Assessment Committee's review of 19 programmes in the study direction is summarised in Table 1. A number of recommendations result that require very urgent attention, to both enhance the student learning experience and to safeguard the international reputation of RTU in an increasingly competitive international market for higher education. Primary among the recommendations are addressing the facilities at the branch campuses, development of a quality culture and concentration of resources on the most strategically important study programmes.

- Due to the urgency and significance of some of the issues, **a period of accreditation of 2 years is recommended.**

The Assessment Committee are confident that addressing the priority issues will lead to a significantly longer period of accreditation at the next review.

### 4.2 MANAGEMENT OF THE STUDY DIRECTION

- It is recommended that the threat to RTU's international reputation from the acknowledged weakness of its current building infrastructure, especially in its branches, be urgently addressed. The infrastructure arrangements in Liepaja, especially, are not fit for a Technical University of international standing.
- It is recommended that a paradigm shift from teaching to learning be implemented. Student-centred learning activities should be developed, starting with learning outcomes. Management should support this policy with appropriate supportive measures, not least training for the academic staff.
- It is recommended that greater use be made of the opportunities for interdisciplinary learning activities which could enhance the students' learning experience and preparedness for the labour market.
- It is recommended that the benefits of stakeholder involvement in the B.I.I.G. initiative, by students and industry, be fully harnessed to support management in addressing the extent of the resource and infrastructure deficits of some programmes, followed by a review to identify how internal quality assurance processes could be enhanced from lessons learned (see also Section 4.6).
- It is recommended that a review be undertaken of study programme sustainability and labour market need to ensure resource prioritisation, in the context of acknowledged under-funding of higher education at present. Specifically the need for concurrent deliver of an Academic Masters and a Professional Masters in Architecture should be sufficiently demonstrated.
- It is recommended that a review be undertaken of the title of the programmes and degrees in the 'Heat, Gas and Water' series to better fit international comparability. For example, titles related to 'Building Services' or 'Building Systems' could be considered.
- It is recommended that distance learning be introduced, especially in support of the needs of communities served by the branch campuses.

- It is recommended that recognition of prior non-formal education or professional experience should be promoted to students in employment to help balance their workload between employer and study commitments.
- It is recommended that the learning outcomes of the internship be further developed and that it be better integrated into the study process by implementing an academic supervision occasionally on-site with appropriate assessment.
- It is recommended that entry requirements to engineering study programmes should include a minimum score in mathematics as an additional mandatory prerequisite for those entering from second level education.

### **4.3 RESOURCES AND PROVISIONS**

- It is recommended that an urgent assessment be made of the infrastructure deficits, particularly evident in the branch campuses, and that an urgent plan be drawn up to address the deficits in a sustainable return on investment.
- It is recommended that a robust staff development policy be implemented to identify and address individual staff member's professional development needs to achieve their full potential as educators and researchers, in the context of an increasing competitive international market for higher education.
- It is recommended that prioritisation and targeted investment be implemented on resourcing programmes of greatest labour market need, aligned with RTU's greatest strengths in respect of laboratory facilities and research excellence.
- It is recommended that the English language proficiency of faculty and students be enhanced by an institutional commitment to support delivery of parts of the study programmes in English.
- It is recommended that an investment plan be implemented to provide support to staff in bringing the state-of-the-art to their pedagogy
- It is recommended that RTU should urgently consider appointing laboratory managers to ensure effective use and maintenance of equipment, continuity and knowledge management.

### **4.4 SCIENTIFIC RESEARCH OF ACADEMIC STAFF AND STUDENTS**

- It is recommended that greater use of key performance indicators be used to identify the extent of imbalance in research outputs by faculty, allied to an institutional framework of research support to faculty to enable them to develop their international research profile to their full potential.
- It is recommended that better integration between research and education be achieved. For example, the annual volume of externally-funded research projects should be increased to a level that ensures sufficient opportunities for engagement of students in research during their bachelor and master's level studies.
- It is recommended that minimum expectations be set for a high number of citations of English language state-of-the-art journal papers in the literature reviews and discussion chapters of students' final year project theses at bachelor and master degree level.

#### **4.5 COOPERATION AND INTERNATIONALISATION**

- It is recommended that greater alignment of study programme learning outcomes at a given stage of a programme be implemented with current and future mobility exchange partners. These and any other required measures should be urgently put in place to reduce barriers to student mobility, ensuring that students who avail of mobility exchange opportunities do not have to extend their overall period of study (by one semester or by one year) to successfully complete their programmes.
- It is recommended that, building on the recent positive development of joint degrees with VGTU, more opportunities for co-operation be explored, with such programmes delivered in English to further enhance RTU's attractiveness to international students.

#### **4.6 QUALITY ASSURANCE AND GUARANTEES**

- It is recommended that a specific project be implemented on enhancing the effective use of a set of distinct quality enhancement feedback loops, across the stakeholders of the study programmes. Closing the loops at study programme level should form part of a strategy to integrate quality assurance into daily operations to enhance the fostering of a quality culture at institutional level.
- It is recommended that data captured in 'ORTUS' be more strategically used in the quality assurance process. This should be implemented by building a tailored suite of analytical reports, available at various permission levels in accordance with the needs of the user (lecturer, programme director, head of department, dean etc.)

**Table 1: Assessment grades across the programmes reviewed, providing an overview of the assessment of the study direction**

Deficient	Adequate	Good	Excellent	Architecture				Civil Engineering				Transport Eng		Geomatics		Hear, Gas, Water			Other Programmeds			
1	2	3	4	A.B	A.M	P.M	Doc	1st	P.B.	P.M	Doc	P.B.	P.M	P.B.	P.M	P.B.	P.M	Doc	1st CM	PB ERDUE	A.M IRBE	A.M ISG
1	Programme title appropriate?	3	1	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	1	4	3
2	Admission Rules?	4	1	4	4	4	4	4	3	4	4	3	4	4	3	3	4	4	4	4	4	4
3	Content and Objectives?	3	1	4	2	2	2	4	4	4	4	2	4	2	3	4	4	4	1	3	3	4
4	Content and Qualifications?	4	1	4	3	2	2	4	4	4	4	4	3	3	3	4	4	4	1	1	4	4
5	Content state-of-the-art? (AB,AM,Doc)	4	1	N/A	3	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A	N/A	4	4
6	Workload per credit point?	4	4	4	4	4	4	3	3	3	3	2	4	4	4	3	3	4	4	4	4	4
7	Traineeship quality? (1st, PB, PM)	N/A	N/A	4	N/A	2	2	2	N/A	2	2	2	2	2	2	3	3	N/A	2	3	N/A	N/A
8	Appropriate module plan?	4	1	4	1	3	3	2	3	3	3	3	3	3	3	3	3	4	1	3	4	3
9	Distance learning management?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	Admission procedures?	4	2	4	4	4	4	3	3	3	3	4	4	4	3	4	4	4	4	4	4	4
11	Recognised prior (non-formal) learning?	2	2	2	N/A	1	2	2	N/A	2	2	2	2	2	2	2	2	N/A	1	2	2	2
12	Final theses quality?	3	2	2	4	3	3	3	4	4	4	4	4	3	3	4	4	4	3	4	3	2
13	Programme structure governance?	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2
14	Quality control management?	4	4	4	4	2	3	3	3	2	2	2	2	2	2	4	4	4	1	4	2	2
15	Module descriptor governance?	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3
16	Academic staff qualifications and skills?	3	3	4	3	3	2	3	3	3	3	3	3	3	3	4	4	4	2	4	3	4
17	Library and electronic resources?	4	4	4	3	4	1	3	1	4	4	4	4	4	4	3	4	4	1	2	3	4
18	Laboratories and equipment?	3	3	3	3	2	1	2	1	2	2	3	3	3	4	3	2	3	1	3	2	4
19	Ongoing investment in infrastructure?	4	4	4	4	3	2	2	1	2	2	3	3	3	3	3	2	3	2	3	2	3
20	Sustainability of programme?	4	1	4	3	3	3	3	3	3	3	4	4	3	3	4	4	4	2	3	3	3
21	Implementation of recommendations?	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

A.B Academic Bachelor	A.M Academic Master	Doc Doctoral	P.B. Professional Bachelor	P.M Professional Master	1st First Level Professional Higher Ed. Study	CM Construction Management	ERDUE Eng. of Regional Devel. and Urban Economics	IRBE Innov Road and Bridge Eng	ISG Innov Solutions in Geomatics
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