



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vilniaus technologijų ir dizaino kolegijos

**STUDIJŲ PROGRAMOS *SUSISIEKIMO KELIAI IR STATINIAI***

*(valstybinis kodas – 653H22001)*

**VERTINIMO IŠVADOS**

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**EVALUATION REPORT**

**OF *COMMUNICATION LINKS AND STRUCTURES***

*(state code – 653H22001)*

**STUDY PROGRAMME**

At Vilnius College of Technologies and Design

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Išvados parengtos anglų kalba  
Report language – English

Vilnius  
2016

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Susisiekimo keliai ir statiniai</i>
Valstybinis kodas	653H22001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Statybos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinės (3), iššęstinės (4)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Kelių inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2000-06-01

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## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Communication Links and Structures</i>
State code	653H22001
Study area	Technological Sciences
Study field	Civil Engineering
Type of the study programme	College type studies
Study cycle	First
Study mode (length in years)	Full-time (3), Part-time (4)
Volume of the study programme in credits	180 ECTS
Degree and (or) professional qualifications awarded	Professional Bachelor in Road Engineering
Date of registration of the study programme	01-06-2000

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# CONTENTS

<b>I. INTRODUCTION .....</b>	<b>4</b>
1.1. Background of evaluation process.....	4
1.2. General.....	4
1.3. Background of the HEI/Faculty/Study field/Additional information.....	5
1.4. The Review Panel.....	5
<b>II. PROGRAMME ANALYSIS .....</b>	<b>6</b>
2.1. Programme aims and learning outcomes.....	6
2.2. Curriculum design .....	7
2.3. Teaching staff .....	9
2.4. Facilities and learning resources .....	12
2.5. Study process and students' performance assessment.....	13
2.6. Programme management .....	15
<b>III. RECOMMENDATIONS .....</b>	<b>17</b>
<b>IV. EXAMPLES OF EXCELLENCE * .....</b>	<b>19</b>
<b>IV. SUMMARY.....</b>	<b>20</b>
<b>V. GENERAL ASSESSMENT .....</b>	<b>22</b>

## I. INTRODUCTION

### 1.1. Background of evaluation process

The evaluation of on-going study programmes is based on the **Methodology for Evaluation of Higher Education Study Programmes**, approved by the Order No 1-01-162 of 20<sup>th</sup> December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter, SKVC). Evaluation is intended to help higher education institutions to constantly improve their study programmes and to inform the public about the quality of studies.

The evaluation process consists of the main following stages: 1) *self-evaluation and the Self-evaluation Report prepared by a Higher Education Institution (hereafter, the HEI)*; 2) *a visit of the Review Panel at the higher education institution*; 3) *preparation of the evaluation report by the Review Panel and its publication*; 4) *follow-up activities*.

On the basis of the study programme external evaluation SKVC takes a decision to accredit the study programme either for 6 years or for 3 years. If evaluation of the programme is negative such programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas were evaluated as “very good” (4 points) or “good” (3 points).

The programme is **accredited for 3 years** if none of the areas was evaluated as “unsatisfactory” (1 point) and at least one evaluation area was evaluated as “satisfactory” (2 points).

The programme is **not accredited** if at least one of evaluation areas was evaluated as “unsatisfactory” (1 point).

### 1.2. General

The application documentation submitted by the HEI follows the outline recommended by SKVC. Along with the Self-evaluation Report and Annexes, the following additional documents have been provided by the HEI before, during and/or after the site-visit:

No.	Name of the document
1.	QA Manual and documentation
2.	MoMs of programme related committees
3.	Course Portfolio

### **1.3. Background of the HEI/Faculty/Study field/Additional information**

Vilnius College of Technologies and Design was formed on 1<sup>st</sup> of September 2008 in accordance with Resolution No. 785 of the Government of the Republic of Lithuania by merging the reorganised Vilnius Technical College into the Vilnius College of Construction and Design. The name of the Vilnius College of Construction and Design was changed to Vilnius College of Technologies and Design (VCTD), which has become the largest College of technological and artistic character in Lithuania.

There are four faculties in VCTD: Design faculty, Civil Engineering faculty, Petras Vileišis Railway Transport faculty and Technical faculty. The study programme Communication Links and Structures is located under the Petras Vileišis Railway Transport Faculty. The programme is categorised in the study area of Technological Sciences, within the study field of Civil Engineering and under the branch of Road Engineering. The study programme offers two specialisations: Railway Construction and Maintenance and Road Construction and Maintenance in the full-time and part-time study modes. In 2009 the study programme was accredited by the Centre for Quality Assessment in Higher Education until 31 September 2016 (6-year accreditation).

The study programme awards the Professional Bachelor degree in Road Engineering.

### **1.4. The Review Panel**

The Review Panel was composed according to the *Description of the Review Team Member Recruitment*, approved by the Order No 1-01-151, 11/11/2011 of the Director of the Centre for Quality Assessment in Higher Education. The visit to the HEI was conducted by the Panel on 3<sup>rd</sup> of December, 2016.

**1. Assoc. Prof. George Markou (Chair of the Team)**

*Associate Professor at ALHOSN University, United Arab Emirates.*

**2. Assoc. Prof. Andrus Aavik**

*Associate Professor at Tallinn University of Technology, Estonia.*

**3. Assoc. Prof. Liga Gaile**

*Associate Professor at Riga Technical University, Latvia.*

**4. Assoc. Prof. Vincentas Vytis Stragys**

*Vice Chairman at Lithuanian Association of Civil Engineers, Lithuania.*

**5. Tautvydas Šimanauskas**

*Masters student at Kaunas University of Technology (Building Services System field), Lithuania.*

## **II. PROGRAMME ANALYSIS**

### ***2.1. Programme aims and learning outcomes***

As it was stated in paragraph 14 of the SER, the Communication Links and Structures (CLS) study programme describes its main aims, which are to prepare road engineering specialists who will be able to understand methods of design and who will apply them when carrying out design work for land roads and transport structures. The programme also aims to derive graduates that will be able to organize and carry out railway and road construction work, repair and maintenance work and to ensure human and environmental safety. Finally, the programme aims to develop specialists that will be able to take independent technical decisions, thus successfully work in competitive market environments and be capable to develop themselves professionally. The successful graduates are awarded the professional qualification of a bachelor's degree in Road Engineering. The RP found the aims clear and well stated within the programme's SER.

The RP visited the website of VCTD, where the only link available (English version) was referring to the Civil Engineering Programme (9<sup>th</sup> Nov. 2016). Therefore, the aims and learning outcomes of the programme were not found, hence were not accessible to the public. This can be misleading to foreign applicants. The College's administration stated that the website is currently under maintenance and it will be ready soon, in both Lithuanian and English languages.

According to Table 2 (pages 7-8 of the SER), the CLS study programme represents the mapping of the 9 programme learning outcomes (PLOs) to the offered courses. The RP found the 9 PLOs to be sufficient but in some cases they were very lengthy (i.e. 2<sup>nd</sup> and 6<sup>th</sup>). Study PLOs should be clear so as to provide the instructor the ability to connect them easily to course learning outcomes. The RP also recommends the incorporation of a code system that will allow an easier referencing of the PLOs within tables (i.e. syllabi and instructor reports).

After a detailed study was performed in regards to the contents of Table 2 within the SER, the RP found that the CLS programme needs to develop a new Table that will have a matrix format, therefore provide with the ability to check the overall balance between the PLOs and the offered courses, in order to ensure a balanced distribution. Courses such as Graduation Thesis and Internships should be correlated to all PLOs, given their nature, while courses that promote research activities should be correlated to the last PLO of the table (long-life learning). The findings of the review on Table 2, concluded that the mapping needs to be further updated so as to achieve a proper correlation between the PLOs and the programme's offered courses.

The CLS programme's aims and programme learning outcomes are developed by accounting the professional requirements, the public needs and the needs of the labour market. Based on the statistics provided and the methodology used to update the PLOs, the CLS programme is fully taking into consideration the current and future market trends of Lithuania, that are related to land transportation. This is evidence of good practice.

According to the Lithuanian Qualification Framework (Level 6), the CLS programme aims and programme learning outcomes were found to be consistent with the type level of studies and qualifications offered by the programme (as described within the SER).

The RP found that the name of the programme (Communication Links and Structures), its learning outcomes, content and the qualifications offered are compatible with each other. In regards to the English translation of the programme's name, it is recommended to modify it into a more Civil Engineering commonly used name (according to the international standards), such as "Transportation Systems and Structures". When reading the currently adopted name "communication links", it automatically refers the public (the average reader) to the field of telecommunications that is irrelevant to the Civil Engineering profession and the field of transportation systems. The Lithuanian name was found to be appropriate.

## ***2.2. Curriculum design***

The study programme Communication Links and Structures is one of the three study programmes in the field of civil engineering that is delivered at the VCTD. The programme CLS with a total volume of 180 ECTS credits (and 4,800 academic hours) complies with the Order of the Minister for Education and Science of Republic of Lithuania "General Requirements for the First Degree and Integrated Study Programmes" (9 April 2010 No V-501). The Programme is delivered for full-time (3 years, e.g. six semesters) studies and for part-time (4 years, e.g. eight semesters) studies with an equal subject volume. Compliance with the minimum requirements of legal acts meets the volume of the General College study subjects (with 15 ECTS), subjects of the study field have 135 ECTS, special study subjects have 30 ECTS, optional subjects have 9 ECTS, practice has 30 ECTS and the Final project has 12 ECTS. The maximum number of subjects per semester is seven, which is in line with the relative rules and regulations.

The programme offers two specializations starting from the third semester with an equal structure of working hour distribution (this was introduced in 2013):

- 1) Railway Construction and Maintenance;

## 2) Road Construction and Maintenance.

From the analysis of the study plan it appears that students' workload is distributed evenly throughout all 3 years of the study programme (full-time) and 50% of the hours are allocated for contact (teaching) hours. During the first three semesters, the proportion of the theoretical part (lectures), practical studies, consultations and individual work hours is approximately constant. The fourth semester stands out with a drop of the working hours in the theoretical part (lectures), practical studies, consultations and an increase in the number of individual working (75%) hours due to the introduction of the subject Industrial Practice. Meanwhile in the fourth semester the key subjects of the study field and specialization are conducted (Transport constructions 2, Railway Design, Road design, Railway construction and Road Construction). In the fifth semester the contact hour and individual work hour proportion again returns to the levels of the first three semesters. This rapid change of proportion during the middle of the study programme might result in students attending the contact hours less frequently and even an increase in the risk of drop-outs after the Practice, due to starting an early working career. In this case, the College provides students with additional support with their studies and also an individual study plan. Nevertheless, students and social partners support the current distribution of practices during the studies because it is generally found as an effective way to increase valuable practical skills.

The RP found that the consultation hours remain almost constant throughout the whole study programme with a slight increase towards the end of studies. The themes of study subjects are not repetitive and the content of the subjects is consistent with the type and level of the studies.

The content of the subjects and modules is consistent with the type and level of the studies and overall the structure of the Core Curriculum of the CLS programme is found to be appropriate to ensure the defined learning outcomes as it includes all subjects of civil engineering generic groups and is well detailed. One third of the study field subjects is directed towards enhancing knowledge of engineering fundamentals and prepare students for subjects of their future profession. This is found to be an optimum proportion.

Overall the content and methods, and scope of the subjects are appropriate for achievement of the intended learning outcomes. It is found that a variety of teaching/learning methods is used (case-study, group work, discussions, practical tasks, oral presentation of reports etc.). Each of the subject foresees either an individual work (IW) or a final exam (E), i.e. 45% of the subjects foresee a final exam.



Although the content of the subjects to prepare students for the Transport construction 2 where the learning outcome is “to be able to understand and to apply design methodologies for transport structures” (i.e. different type of bridges) could be considered as sufficient, it is not fully reflected in the Final Projects. Therefore, it is suggested to enhance the volume of Final Projects. Social partners noted the need of further enhancement of use of digital solutions during the study process.

It was also found that the study plan has been periodically updated following the rapid development of new technologies. For example, the new subject Track Bed Fundamentals (6 ECTS) was implemented in 2012 by recommendations of the social partners. The good collaboration with social partners results in the use of state-of-the-art equipment for practical and laboratory works especially for the Railway Construction and Maintenance speciality.

### ***2.3. Teaching staff***

All the teachers, 28 in 2015/16 academic year (a/y), working in the CLS study programme have at least a Master’s degree or an equivalent higher education degree. 3 of them have a Ph.D. degree and 3 are currently doctoral students.

14,2% of the study field subjects are taught by Ph.D. holders. 78,5% of the programme teachers have at least three years of practical experience in their subject field.

Practice mentors have a Master’s qualification degree of the respective Engineering study field, 9 years of experience in teaching subjects of the Engineering study field and 3 years of practical experience. Teachers with practical experience in the subject area supervise students’ practical training. All practice supervisors in companies have at least a Master’s qualification degree in their study field and at least three years of relevant practical work experience.

Subject teachers of the CLS study programme have a suitable and adequate practical and pedagogical experience (see Annex 2 of SER). The majority of the teaching staff have a long teaching experience (only 2 teachers out of the 28 have less than 3 years, see Annex 2 of the SER). The staff practical experience was found to be adequate to ensure learning outcomes.

For participation in the teachers’ practical, professional and pedagogical experience update event/activity, teachers have to present a request to the Dean of the faculty and the Dean decides the possibility to accept/financially support their participation on that event/activity. This system is deemed to be inequitable given that teachers depend a lot of the Dean’s individual decision.

Therefore, the RP recommends to establish a clear and formalized policy for the development of teachers' practical, professional and pedagogical experience in the Faculty. The financial support should be stated clearly within this policy for all faculty members.

Teachers of the CLS study programme has updated their pedagogical and practical qualification in various forms: participation in preparation and executing national and international projects, taking part in qualification updating events (courses, seminars, conferences, internships), also participation in international programmes such as Erasmus+ (see Annexes 2 and 3 of the SER).

Teachers of the CLS study programme, as qualified and competent specialists, are taking part in the activities of various professional committees and preparing qualification improvement programmes for the railway employees.

During the assessment period 19 teachers participated in exchange visits to educational institutions in 9 countries. The College had a total of 30 incoming teachers from Hungary, Slovenia, Russia, Latvia, Poland and Ukraine, during the same period.

The RP noticed during the Campus visit an insufficient English language knowledge by the programme teachers. That can be attributed to the fact that the mobility of the teachers has been directed mostly towards Eastern European countries. Therefore, the RP recommends the support of teachers' language enhancement by the College, in order for them to be able to participate more actively through the mobility programme and travel to Western countries in order to establish more contacts with English speaking colleagues, hence conduct applied research and publish papers in international conferences and journals.

The Procedure of Composition of Educational Workload of the Teachers of the College regulates the educational workload of teachers, which is set to 1,548 hours per a/y and includes the auditorial work (not more than 50%), non-contact work (15%), methodical activities (15%), applied scientific research (10%) and organizational activities (10%). During the RP's visit, the programme staff was found to be generally satisfied with their assigned workload, but they also mentioned that the number of contact hours was slightly larger than they would have wanted. The CLS study programme staff is very motivated, but also were found to be very dissatisfied with their salaries, a phenomenon that was noted in all programmes that the RP was responsible in evaluating. This national problem forces the faculty members to choose the part-time status, a problem that the CLS is expected to phase soon if the salaries of the full-time teachers is not increased.

The Staff/Student Ratio, as it was stated in the SER, is 1:18, which is ideal according to the international standards. A future problem can occur because of the falling student numbers. The number of the study supporting staff is sufficient and ensuring successful organization of the study processes.

During the assessment period the total number of CLS study programme teachers has changed from 29 to 28. During that period 11 new lecturers were employed (3 doctoral students + 8 with practical work experience). Currently most of the teachers are employed as full-time, which is a positive parameter. The turnover of the teachers has not affected the quality of the programme, but the College needs to retain their full-time teachers by increasing their salaries.

The average age distribution of the teachers of the CLS study programme was found to be sufficient: 23% are under 30, 42% are 31-45 and 35% are 46-60. None of the members is more than 60 years old.

93% of the teachers have pedagogical experience over 3 years (see Annex 2 of the SER). The professional and pedagogical improvement of teachers is regulated by the Outlines of Qualification Requirements of Duties and their achievements are evaluated during the attestation/re-election every 5 years. New teachers are hired through the procedure of public tender for the 5-year period, following the regulations for teachers' attestation and public tender for academic positions.

All teachers have equal opportunity in improving their professional qualification in a form of their own choice. Main qualification update methods foresee the participation at scientific conferences (in average 20 persons per a/y), international exchange (4 persons per a/y), courses and seminars (20 persons per a/y) and internship (in total 4 persons during the evaluation period, see Annex 2 of the SER). The practical knowledge acquired during the professional development is used for updating the content of the subjects.

During the assessment period lecturers of the study programme cooperated with other higher educational institutions (e.g. Moscow State Automobile and Road Technical University, Riga Technical University, Silesian University of Technology, the University of Szeged, Dnipropetrovsk National University of Railway Transport, Lviv Polytechnic National University) for joint applied research and for other activities such as competitions of students, international conferences and exchange visits. Erasmus+ exchange visits provides teachers with the possibility to take over the best practice of their international partners. Nevertheless, the

College has mentioned in the SER the need for improvement of scientific links and cooperation between teachers of the programme and researchers from foreign universities. The RP agrees with that, only in connection with the teachers' English language skill development need that was previously recommended.

The teachers of the CLS study programme are involved in research, which is closely related to the study programme and have had several presentations on different national and international scientific-practical conferences, and also published study programme topic related papers (see Annex 3 of the SER). The experience gained in the research has been integrated into the subjects of the study programme and has contributed to the achievement of the learning outcomes. According to the programme's submitted SER, the Faculty is intended to develop the applied science activity plan for the years 2017-2020 and to strengthen teachers' scientific experience. The plan has to be assessed during the next RP evaluation cycle.

Every academic year the Faculty organize an international conference titled Transportation: Innovations, Studies, Business, in which presentations are prepared by the CLS study programme teachers, by social partners and by partners from foreign higher educational institutions. This is an evidence of good practice.

Best practice, obtained from the cooperation and research activities, has been implemented in the CLS study programme and the content of subjects/modules has been updated. As a result of the cooperation with the College's social partners, some learning/teaching facilities were updated, which helped to the students' professional knowledge development and their participation in applied research.

The students (who participated in the meeting with the RP) were asked to rate the CLS programme's teachers, grading them with an overall 8 out of 10 and the alumni graded them with the exact same mark. This is an evidence of the students' satisfaction.

#### ***2.4. Facilities and learning resources***

For the academic needs of the CLS programme, the College is providing the programme with 15 classrooms and 5 laboratories and Training grounds of Lithuanian Railways. All premises are equipped with technical software facilities and learning resources. Classrooms and laboratories comply with the hygiene norms described in HN 102:2001.

For the programme's study requirements, the campus is equipped with technical facilities, laboratories, computerized work places, multimedia, mobile screens and magnetic boards. In addition to that specialized stands, devices and apparatus are used such as: tachymeter equipment kit, railway track superstructure model, software for road and railway design work, railway signaling equipment, switches and railway crossing. The laboratory of Geodesy is equipped with modern geodetic instruments, while the laboratory of Material Sciences and Standardization is equipped with instruments and devices for testing various building materials. For the asphalt concrete design and testing, the College is sending students to a private company outside its premises because there is no equipment for such activities. The RP recommends the development of an additional asphalt related laboratory that will include the basic test equipment so as to provide to students the required laboratory facilities within its premises.

During studies students have to perform 3 types of practices: Internship of construction works, laboratories, site visits to construction companies and specialized fairs. Specialized practice of Geodesy is carried out within the College's premises. Industrial and Final Practice are organized and performed in innovative construction companies based in Lithuania.

It was also found that the CLS programme has a sufficient number of teaching and learning resources. There are 252 titles which are devoted to the study programme, while publications are listed in the web site of the College and the list is frequently updated.

The library is subscribed in 3 databases. References and access to databases are available from the computerized workplaces within the library. Methodological material, lectures, recommendations for course papers and projects are periodically updated and are available as hard and soft copies.

### ***2.5. Study process and students' performance assessment***

Since 2010 the admission and ranking of future students is organized by the Association of Lithuanian Higher Education Institution for General Admission and the main criteria is a competition-based score. The admission requirements for entrants of the CLS programme are the following: mathematics examination result (coefficient 0.4), physics examination result (coefficient 0.2), third subject (history/geography/IT/chemistry/biology/foreign language) examination result (coefficient 0.2), Lithuanian language and literature examination result (coefficient 0.2) and additional criteria (Academic Olympiads, sport achievements and professional experience). These admission requirements can be found on the College webpage.

The duration of the semester of studies is 20 weeks. The programme consists of general College subjects, study field subjects, special study subjects and a final project. The subject consists of contact hours, practical activities, consultancy hours and individual work. The College organises educational or cognitive trips as well. During these trips, students visit real life projects, which they have introduced and discussed during lectures. Much attention is given on practice that ensure the students' received practical skills that will help them minimize the gap between the theory and practical implementation. The average academic performance of the students in the study programme varies from 6.45 to 7.36, but the 1<sup>st</sup> year student performance was reported to be slightly lower. Drop-out students during the assessment period varies from 7% to 46%, due to the relatively small number of students enrolled in the study programme.

Students participate in applied scientific activities such as practice conferences and researches. Students often take award-winning places in competitions related to their field of study, while teachers strongly encourage students to take part in such events. This is an evidence of good practice.

The CLS programme takes part in the Erasmus+ exchange programme and has three partner Colleges from two different countries. Few students participated in this mobility programme; however, the College tries to promote this programme by organising special events and giving additional information to students. Nonetheless, there are no incoming students in this programme.

First year students are introduced to academic processes by the first week. Students can contact teachers through the MOODLE platform, e-mail or phone. Around 60% of methodological information is uploaded on MOODLE and students find this convenient. Students who have problems with their studies can receive teacher consultations, the timetables of which can be found on the College's webpage. There is social and financial support available to students and those who exhibit a high academic performance, thus are awarded scholarships. The College has also established a career centre. During the visit, it was noticed that senior students had a lower level in speaking English, but 1<sup>st</sup> year students were more competent. This is attributed to the new English teacher that recently joint the College. For the senior students, the RP recommends the organization of additional English classes, if such an opportunity can be provided without burdening them financially.

Students are provided with the ability to fill anonymous surveys in regards to their study quality. The students are evaluated by their studying results, and the evaluation is based on an

accumulation index and examination grade. The examination results are posted via the internet system within three days and the results of students are discussed and analysed thoroughly by the instructors. Overall, students seem to be satisfied with the study quality.

Data reports that around 96% of graduates were employed in their speciality the same year after graduation. The College invests in establishing and maintaining a strong relationship with its social partners in order to improve their programme and to connect their curriculum to the needs of the labour market. The social partners organise trips for students to sites and hold lectures for students about the labour market. The College should establish an active Alumni Club so as to strengthen the already established relationship between College and graduates.

## ***2.6. Programme management***

The management of the programme is performed by the corresponding faculties of the College, where the CLS study programme is found under the umbrella of the technological sciences in the Faculty of Civil Engineering. The programme is managed by the corresponding Dean of the faculty and a solid management team. The monitoring and update recommendations in regards to the programme, is performed by a 5-member committee, which consists of a faculty member, a social partner, a student, a representative from another higher educational institution and a fifth member that can be either. The proposals of this committee are directly sent to the Dean of Faculty. The RP finds this approach efficient, given that the monitoring of the programme is performed in a consistent way by the Dean of the Faculty.

Based on the internal quality assurance manual of the College, the programme collects yearly the results from surveys and students' outcomes in order to analyze the results and derive conclusions on the overall performance of the CLS programme. The foreseen frequency of data collection is considered by the RP as adequate.

The QA department of the College was found to be well structured and organized. During the visit the RP was presented with QA related material that was developed by the QA department, while the monitoring of 30 KPIs was also presented at the College level. This is a clear evidence of good practice in establishing a solid QA system. The RP recommends the simplification of the QA procedures that foresee the implementation of the internal self-evaluation standards, to further improve the efficiency of the QA unit.

The CLS programme is following the internal quality assurance procedures that foresee the utilization of all stakeholders' opinions in order to improve its curriculum and deliverable

material. According to the SKVC and the submitted SER, the study programme did not undertake any external assessment within the last 6 years. The RP recommends that the programme should organize the visit of external experts (at least once every three years) so as to further contribute to its improvement and further support its effort towards monitoring the progress in achieving its vision.

All stakeholders of the programme are involved in the evaluation procedure, while the need of improvement of the level of students and social partners' participation during the evaluation and improvement processes, was acknowledged by the programme's administration (reported within the SER as a weakness). The RP recommends that the CLS programme should propose solid methods and a strategy through which it will ensure that the students and social partners will be further actively involved, thus further contribute to the evaluation and improvement of the programme. The Alumni club was found to be inactive, therefore, the RP recommends the activation of this body so as to involve graduates and alumni in the improvement procedure of the programme.

The internal QA system which is in place at the College level, fortifies the CLS programme to act upon weaknesses and integrate any required changes according to the received feedback. As stated in the programme's SER, an internal study quality management manual is implemented. The QA measures are sufficient and well developed. During the visit, the RP requested for a course portfolio, which the programme provided. The course portfolio had little to show, thus the RP recommends the development of detailed course portfolio for all courses in order to achieve continuous improvement and provide the QA unit and external reviewers with the ability to assess the course delivery level.



### III. RECOMMENDATIONS

1. The RP visited the website of VCTD, where the only link available (English version) was referring to the Civil Engineering Programme (9<sup>th</sup> Nov. 2016). Therefore, the aims and learning outcomes of the programme were not found, hence were not accessible to the public. The programme's web page should be available in both Lithuanian and English languages.
2. The RP found the 9 PLOs to be sufficient but in some cases they were very lengthy (2<sup>nd</sup> and 6<sup>th</sup>). Study PLOs should be clear and to the point, so as to provide the instructor the ability to connect them easily to course learning outcomes.
3. The RP also recommends the incorporation of a code system that will allow an easier referencing of the PLOs within tables (i.e. syllabi and instructor reports).
4. The findings of the review on Table 2, concluded that the mapping needs to be further updated so as to achieve a proper correlation between the PLOs and the programme's offered courses.
5. In regards to the English translation of the programme's name, it is recommended to be modified into a more Civil Engineering commonly used name, such as "Transportation Systems and Structures".
6. In order to synthesise the knowledge acquired in previous studies, the strengthening of the analytical part and the increase of the volume of the Final Project should be considered.
7. More active integration of digital solutions in the study process is suggested.
8. Erasmus+ mobility programmes are implemented into the College; however, there is a great inequality between the incoming and outgoing students. This area needs to be improved, as international interactions could enhance the low English level skills among senior students.
9. For the senior students, the RP recommends the organization of additional English classes, if such an opportunity can be provided without burdening them financially.
10. The RP suggest to establish The Practical Work Internship Procedure to ensure the requirement that 50% of staff members' practical experience has to be updated at least every five years through a two months training or through practice in internship or through an in-service training.
11. Faculty has to establish transparent and understandable system of financial support of teachers' professional and pedagogical development.
12. The RP noticed during the site visit an insufficient English language knowledge of the programme's teachers. The RP recommends the support of teachers' language enhancement by the College, in order for them to be able to participate more actively through the mobility programme and travel to Western countries in order to establish more contacts with English

speaking colleagues, hence conduct applied research and publish papers in international conferences and journals.

13. The College should establish solid policies in regards to the funding of faculty in participating in national and international conferences every year and the financial support should be clearly stated through a pre-defined amount for each faculty member.
14. The College should develop a clear policy on how the funds of a project that is awarded to a faculty member are distributed and inform all faculty members so as for them to be aware of this policy. The overheads should not be more than 20% of the overall funding of the project.
15. It is also recommended to make all policies available to faculty through the College web site.
16. The RP recommends the development of an additional laboratory that will include the basic test equipment for asphalt, so as to provide to students the required laboratory facilities within its premises.
17. The RP recommends for a simplification in the QA procedures that foresee the implementation of the internal self-evaluation standards, to further improve the efficiency of the QA unit.
18. The RP recommends that the programme should organize the visit of external experts (at least once every three years) so as to further contribute to its improvement and further support its effort towards monitoring the progress in achieving its vision.
19. The RP recommends that the CLS programme should propose solid methods and a strategy through which it will ensure that the students and social partners will be further actively involved, thus further contribute to the evaluation and improvement of the programme.
20. The Alumni club was found to be inactive, therefore, the RP recommends the activation of this body so as to involve graduates and alumni in the improvement procedure of the programme through surveys.
21. The RP recommends the development of detailed course portfolio for all courses in order to achieve continuous improvement and provide the QA unit and external reviewers with the ability to assess the course delivery level.

#### **IV. EXAMPLES OF EXCELLENCE \***

The programme maintains strong connections with the industry and its social partners that expressed their support to the College and their strong ties to the programme. This relationship should be maintained in order to achieve continuous improvement of the programme. The railway laboratories provide the programme and its students with the ability to interact with state-of-the-art equipment that minimizes the gap between the academia and the field.

The QA department was found to be active and knowledgeable. The College should further support the QA department in its endeavor to achieve an optimum integration at the programme level.

#### **IV. SUMMARY**

The RP found the aims clear and well stated within the programme's SER. The RP visited the website of VCTD, where the only link available (English version) was referring to the Civil Engineering Programme (9<sup>th</sup> Nov. 2016). Therefore, the aims and learning outcomes of the programme were not found, hence were not accessible to the public. The RP found the 9 PLOs to be sufficient but in some cases they were very lengthy (i.e. 2<sup>nd</sup> and 6<sup>th</sup>). Study PLOs should be clear so as to provide the instructor the ability to connect them easily to course learning outcomes. The RP also recommends the incorporation of a code system that will allow an easier referencing of the PLOs within tables (i.e. syllabi and instructor reports). After a detailed study was performed in regards to the contents of Table 2 within the SER, the RP found that the CLS programme needs to develop a new Table that will have a matrix format, therefore provide with the ability to check the overall balance between the PLOs and the offered courses, in order to ensure a proper distribution. In regards to the English translation of the programme's name, it is recommended to be modified into a more Civil Engineering commonly used name, such as "Transportation Systems and Structures".

The curriculum design meets the legal requirements and the content of the subjects and modules is consistent with the type and level of the studies. The subject modules are consistent with the College type studies of the Professional Bachelor Degree and are appropriate for the achievement of the intended learning outcomes. The subject module learning outcomes are generally consistent with the programme learning outcomes. The strengthening of the analytical part and the increase of volume of the Final Project should be considered. More active integration of digital solutions in the study process is also suggested.

The study programme is delivered by staff that meet with legal requirements and the qualifications of the teaching staff are adequate to ensure learning outcomes. During the assessed period 11 new lecturers were employed (3 doctoral students + 8 with practical work experience), while the turnover of the teachers has not affected the quality of the programme. The Practical Work Internship Procedure has to be established to ensure the requirement that 50% of staff members' practical experience has to be updated at least every five years through two months training or through practice in internship or through an in-service training. Faculty has to establish transparent and understandable system of financial support of teachers' professional and pedagogical development. Teachers' English language knowledge has to be improved. The Staff/Student Ratio is 1:18, which is ideal according to the international standards. The staff professional and pedagogical development activities are reviewed every 5 years.

For the academic needs of the CLS programme, the College is providing with 15 classrooms and 5 laboratories and Training grounds of Lithuanian Railways. All premises are equipped with technical software facilities and learning resources. For the asphalt concrete design and testing, the College is sending students to a private company outside its premises because there is no equipment for such tasks. The RP recommends the development of an additional laboratory that will include the basic test equipment so as to provide to students the required laboratory facilities within its premises.

Admission requirements are clear and publicly available, giving priority to students with achievements in extracurricular activities. Erasmus+ mobility programmes are implemented into the College; however, there is a great inequality between the incoming and outgoing students. The College provides good academic support for students, given that the students are able to receive individual consultation. The high percentage of graduate employment in the CLS specialty and the demand from the social partners for more specialists, are a vital sign of the programmes importance for the industry.

The RP finds the management of the programme efficient, given that the monitoring of the programme is performed in a consistent way by the Dean of the Faculty. The QA department of the College was found to be well structured and organized. During the visit the RP was presented with QA related material that was developed by the QA department, while the monitoring of 30 KPIs was also presented at the College level. This is a clear evidence of good practice in establishing a solid QA system. The RP recommends the simplification of the QA procedures that foresee the implementation of the internal self-evaluation standards, to further improve the efficiency of the QA unit. The RP recommends that the CLS programme should propose solid methods and a strategy through which it will ensure that the students and social partners will be further actively involved, thus further contribute to the evaluation and improvement of the programme. The Alumni club was found to be inactive, therefore, the RP recommends the activation of this body so as to involve graduates and alumni in the improvement procedure of the programme. During the visit, the RP requested for a course portfolio, which the programme provided. The course portfolio had little to show, thus the RP recommends the development of detailed course portfolio for all courses in order to achieve continuous improvement and provide the QA unit and external reviewers with the ability to assess the course delivery level.

## V. GENERAL ASSESSMENT

The study programme *Communication Links and Structures* (state code – 653H22001) at Vilnius College of Technologies and Design is given a positive evaluation.

*Study programme assessment in points by evaluation areas.*

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Teaching staff	3
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	3
	<b>Total:</b>	<b>18</b>

\*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

Grupės vadovas: Team leader:	Assoc. Prof. George Markou
Grupės nariai: Team members:	Assoc. Prof. Andrus Aavik
	Assoc. Prof. Liga Gaile
	Assoc. Prof. Vincentas Vytis Stragys
	Tautvydas Šimanauskas

**VILNIAUS TECHNOLOGIJŲ IR DIZAINO KOLEGIJOS PIRMOSIOS PAKOPOS  
STUDIJŲ PROGRAMOS *SUSISIEKIMO KELIAI IR STATINIAI* (VALSTYBINIS  
KODAS – 653H22001) 2017 KOVO 13 D. EKSPERTINIO VERTINIMO IŠVADŲ NR.  
SV4-47 IŠRAŠAS**

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**V. APIBENDRINAMASIS ĮVERTINIMAS**

Vilniaus technologijų ir dizaino kolegijos studijų programa *Susisiekimo keliai ir statiniai* (valstybinis kodas – 653H22001) vertinama **teigiamai**.

<b>Eil. Nr.</b>	<b>Vertinimo sritis</b>	<b>Srities įvertinimas, balais*</b>
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	3
3.	Personalas	3
4.	Materialieji ištekliai	3
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	3
	<b>Iš viso:</b>	<b>18</b>

\* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 - Labai gerai (sritis yra išskirtinė)

&lt;...&gt;

**IV. SANTRAUKA**

Ekspertų grupės nuomone, studijų programos tikslai aiškūs ir gerai suformuluoti Savianalizės suvestinėje. Peržiūrėjusi VTDK svetainę (2016 m. lapkričio 9 d.) ekspertų grupė pastebėjo, kad vienintelė informacija anglų kalba buvo apie studijų programą Statybos inžinerija. Studijų programos *Susisiekimo keliai ir statiniai* rezultatai ir tikslai nebuvo skelbiami ir viešai prieinami. Ekspertų grupės nuomone, pakanka esamų 9 studijų rezultatų, tačiau kai kurie iš jų (2 ir 6) yra labai didelės apimties. Studijų rezultatai turi būti aiškūs ir tikslingi, kad dėstytojais juos galėtų lengvai susieti su dalykų rezultatais. Ekspertų grupė taip pat rekomenduoja įdiegti kodų sistemą, kad studijų rezultatus būtų galima paprasčiau pateikti lentelėse (ypač dalykų programų aprašuose ir dėstytojų ataskaitose). Atidžiai išnagrinėjusi Savianalizės suvestinės 2 lentelės turinį, ekspertų grupė nusprendė, kad reikia sudaryti naują matricos formos lentelę ir nustatyti

tinkamas sąsajas tarp studijų programos rezultatų ir dėstomų dalykų ir užtikrinti tinkamą jų paskirstymą. Kalbant apie studijų programos anglišką pavadinimą, rekomenduojama jį keisti į „Transportation Systems and Structures“, kuriuo įprastai vadinamos atitinkamos studijų programos.

Programos sandara atitinka teisės aktų reikalavimus; dalykų ir (ar) modulių turinys atitinka studijų rūšį ir lygmenį. Dalykų moduliai atitinka profesinio bakalauro laipsnio koleginių studijų rūšį ir yra tinkami numatytiems studijų rezultatams pasiekti. Dalykų modulių rezultatai iš esmės dera su studijų programos rezultatais. Rekomenduojama suteikti daugiau svarumo baigiamojo darbo analitinei daliai ir didinti baigiamojo darbo apimtį. Taip pat patartina į studijų procesą įtraukti daugiau skaitmeninių sprendimų.

Dėstytojų kolektyvas atitinka teisės aktų reikalavimus; dėstytojų kvalifikacija tinkama studijų rezultatams pasiekti. Vertinimo laikotarpiu buvo įdarbinta 11 naujų dėstytojų (3 doktorantūros studentai ir 8 praktinio darbo patirties turintys dėstytojai). Dėstytojų kaita neturėjo įtakos studijų programos kokybei. Rekomenduojama nustatyti ir patvirtinti praktinio darbo stažavimosi tvarką, pagal kurią dėstytojai ne mažiau kaip kas 5 metus įgytų 50 % praktinių žinių dalyvaudami dviejų mėnesių trukmės mokymo kursuose, stažuotėse arba kvalifikacijos kėlimo kursuose. Fakultetas turi parengti skaidrią ir aiškią finansinės paramos sistemą dėstytojų profesiniam ir pedagoginiam ugdymui remti. Dėstytojų anglų kalbos žinios turi būti gerinamos. Dėstytojų ir studentų santykis – 1:18. Tai idealus santykis pagal tarptautinius standartus. Dėstytojų profesinis tobulėjimas ir pedagoginė veikla peržiūrimi kas 5 metai.

Studijų programos Susisiekimo keliai ir statiniai poreikiams užtikrinti Kolegija yra paskyrusi 15 auditorijų ir 5 laboratorijas bei „Lietuvos geležinkelių“ mokymo kompleksą. Visos patalpos aprūpintos technine programine įranga ir mokymo ištekliais. Asfaltbetonio gamybos ir bandymų studentai mokomi privačioje įmonėje už Kolegijos ribų, nes Kolegija neturi reikiamos įrangos. Ekspertų grupė rekomenduoja sukurti papildomą laboratoriją, kurioje būtų pagrindinė bandymų įranga, kad studentai galėtų naudotis reikiama laboratorijos įranga Kolegijos patalpose.

Studentų priėmimo reikalavimai yra aiškūs ir viešai skelbiami, suteikiant pirmenybę studentams, turintiems papildomų pasiekimų. Kolegijoje vykdomos judumo programos „Erasmus+“, tačiau yra didelis skirtumas tarp atvykstančių ir išvykstančių studijuoti studentų skaičiaus. Kolegijoje studentams teikiama gera akademinė pagalba – siūlomos individualios konsultacijos. Didelis studijų programos Susisiekimo keliai ir statiniai įsidarbinusių absolventų procentas ir socialinių



partnerių pageidavimas, kad būtų parengta daugiau šių specialistų, rodo, kad studijų programa yra svarbi pramonės sektoriui.

Ekspertų grupės nuomone, studijų programos vadyba veiksminga, atsižvelgiant į tai, kad studijų programos vykdymą nuosekliai prižiūri fakulteto dekanė. Kolegijos kokybės užtikrinimo skyrius gerai struktūruotas ir organizuotas. Vizito metu ekspertų grupė buvo supažindinta su Kokybės užtikrinimo skyriaus parengta medžiaga kokybei užtikrinti. Taip pat buvo pristatyti 30 pagrindinių veiklos rezultatų rodiklių, kurių stebėseną vykdoma Kolegijos lygmeniu. Tai yra gerosios praktikos pavyzdys, kuriant tvirtą kokybės užtikrinimo sistemą. Ekspertų grupė rekomenduoja supaprastinti kokybės užtikrinimo procedūras, numatančias vidaus savianalizės standartų įdiegimą, kad Kokybės užtikrinimo skyriaus veikla būtų dar efektyvesnė. Ekspertų grupė rekomenduoja numatyti tinkamus studijų programos Susisiekimo kelias ir statiniai metodus ir strategijas, siekiant paskatinti studentus ir socialinius partnerius aktyviau dalyvauti vertinant ir tobulinant studijų programą. Alumnų klubas veikia neaktyviai. Rekomenduojama skatinti aktyvesnę jo veiklą. Ekspertų grupės nuomone, reikia parengti išsamų kiekvieno dalyko aprašą, pagal kurį būtų vertinama, ar dalykų studijų rezultatai yra pasiekti.

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#### **IV. GEROSIOS PRAKTIKOS PAVYZDŽIAI**

Vykdamas studijų programą glaudžiai bendradarbiaujama su pramonės įmonėmis; socialiniai partneriai remia Kolegiją ir gerai vertina studijų programą. Šiuos ryšius reikia palaikyti siekiant užtikrinti nuolatinį studijų programos tobulinimą. Geležinkelių transporto laboratorijos suteikia studentams galimybę susipažinti su šiuolaikine įranga – taip sumažinamas atotrūkis tarp akademinų ir praktinių žinių.

Kokybės užtikrinimo skyrius aktyviai veikia institucijos lygmeniu, tačiau Kolegija turi užtikrinti, kad skyriaus veiklos rezultatai būtų pritaikomi ir programos lygmenyje.

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#### **III. REKOMENDACIJOS**

1. Peržiūrėjusi VTDK svetainę (2016 m. lapkričio 9 d.) ekspertų grupė pastebėjo, kad vienintelė nuoroda anglų kalba buvo nuoroda į studijų programą Statybos inžinerija. Studijų programos Susisiekimo kelias ir statiniai rezultatai ir tikslai nebuvo viešai skelbiami. Reikia parengti informaciją apie studijų programą lietuvių ir anglų kalbomis.

2. Ekspertų grupės nuomone, pakanka esamų 9 studijų rezultatų, tačiau kai kurie iš jų (2 ir 6) yra labai didelės apimties. Studijų rezultatai turi būti aiškūs ir tikslingi, kad dėstytojai juos galėtų lengvai susieti su dalykų rezultatais.
3. Ekspertų grupė rekomenduoja įdiegti kodų sistemą, kad studijų rezultatus būtų galima paprasčiau pateikti lentelėse (ypač dalykų programų aprašuose ir dėstytojų ataskaitose).
4. Išanalizavusi 2 lentelę, ekspertų grupė nusprendė, kad ją reikia peržiūrėti ir nustatyti tinkamas sąsajas tarp studijų programos rezultatų ir dėstomų dalykų.
5. Kalbant apie studijų programos anglišką pavadinimą, rekomenduojama jį keisti į „Transportation Systems and Structures“, kuriuo įprastai vadinama atitinkamo turinio studijų programa.
6. Kad studentai pritaikytų ankstesniais studijų metais įgytas žinias, reikia suteikti daugiau svarumo baigiamojo darbo analitinei daliai ir didinti baigiamojo darbo apimtį.
7. Rekomenduojama į studijų procesą įtraukti daugiau skaitmeninių sprendimų.
8. Kolegijoje vykdoma judumo programa „Erasmus+“, tačiau yra didelis skirtumas tarp atvykstančių ir išvykstančių studijuoti studentų skaičiaus. Šią problemą reikia spręsti, nes tarptautiniai ryšiai padėtų pagerinti anglų žinias, kurių trūksta vyresnių kursų studentams.
9. Ekspertų grupė rekomenduoja, kad vyresnių kursų studentams būtų dėstomi papildomi anglų kalbos dalykai, jei dėl to studentai nepatirtų papildomos finansinės naštos.
10. Ekspertų grupės nuomone, reikia įdiegti praktinio darbo stažavimosi tvarką, pagal kurią dėstytojai ne mažiau kaip kas 5 metus įgytų 50 % praktinių žinių dalyvaudami dviejų mėnesių trukmės mokymo kursuose, stažuotėse arba kvalifikacijos kėlimo kursuose.
11. Fakultetas turi įdiegti skaidrią ir aiškią finansinės paramos sistemą dėstytojų profesiniam ir pedagoginiam ugdymui remti.
12. Per vizitą ekspertų grupė pastebėjo, kad studijų programos dėstytojų anglų kalbos žinios nepakankamos. Kolegija turi užtikrinti anglų kalbos žinių gerinimą, kad dėstytojai galėtų dalyvauti mobilumo programose, keliauti į Vakarų šalis ir užmegzti daugiau kontaktų su anglakalbiais kolegomis, vykdyti taikomuosius tyrimus, skaityti pranešimus tarptautinėse konferencijose ir skelbti straipsnius mokslo žurnaluose.
13. Kolegija turi parengti fakulteto dalyvavimo nacionalinėse ir tarptautinėse konferencijose kiekvienais metais finansavimo tvarką, numatant tikslį ir pakankamą finansinės paramos sumą kiekvienam fakulteto darbuotojui.
14. Kolegija turi parengti aiškią tvarką, pagal kurią fakulteto darbuotojams būtų skirstomos lėšos projektams vykdyti, ir supažindinti su šia tvarka visus fakulteto darbuotojus. Pridėtinės

projekto vykdymo išlaidos neturėtų sudaryti daugiau nei 20 % visos projekto finansavimo sumos.

15. Rekomenduojama, kad visos tvarkos būtų skelbiamos Kolegijos internetinėje svetainėje.

16. Ekspertų grupė rekomenduoja įrengti papildomą laboratoriją, kurioje būtų pagrindinė asfalto bandymo įranga, kad studentai galėtų naudotis reikiama laboratorijos įranga Kolegijos patalpose.

17. Ekspertų grupė rekomenduoja supaprastinti kokybės užtikrinimo procedūras, numatančias vidaus savianalizės standartų įdiegimą, kad Kokybės užtikrinimo skyriaus veikla būtų dar efektyvesnė.

18. Ekspertų grupės nuomone, siekiant tobulinti studijų programą ir remti pastangas įgyvendinti numatytą viziją, išorinio vertinimo ekspertų vizitą reikėtų organizuoti ne rečiau kaip kartą per tris metus.

19. Ekspertų grupė rekomenduoja numatyti tinkamus metodus ir strategijas, siekiant paskatinti studentus ir socialinius partnerius aktyviau dalyvauti vertinant ir tobulinant studijų programą.

20. Pastebėta, kad alumnų klubas veikia neaktyviai. Rekomenduojama skatinti aktyvesnę jo veiklą – rengti absolventų ir alumnų apklausas, įtraukiant juos į studijų programos gerinimo procesą.

21. Ekspertų grupė rekomenduoja parengti išsamų kiekvieno dalyko aprašą, kad būtų užtikrintas nuolatinis studijų programos gerinimas bei suteikti kokybės užtikrinimo skyriui ir išorės ekspertams galimybę įvertinti dalykų dėstymo lygį.

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Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė, parašas)