STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vilniaus technologijų ir dizaino kolegijos

STUDIJŲ PROGRAMOS *STATYBA*

(valstybinis kodas – 653H21004)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *CIVIL ENGINEERING*
(state code – 653H21004)

STUDY PROGRAMME

At Vilnius College of Technologies and Design

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Išvados parengtos anglų kalba
Report language – English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Statyba***
Valstybinis kodas	653H21004
Studijų sritis	Technologijos mokslai
Studijų kryptis	Statybos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinės (3), ištęstinės (4)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Statinių konstrukcijų inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2012-05-18

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Civil Engineering***
State code	653H21004
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 Structural Engineering
Date of registration of the study programme	18-05-2012

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The Centre for Quality Assessment in Higher Education

CONTENTS

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 20th 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.	Student Transcripts

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

Vilnius College of Technologies and Design was formed on the 1st of September 2008 in accordance with the 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 programme of Civil Engineering is in the study area of Technological Sciences, within the study field branch of Civil Engineering. It was initiated at the College in 2002. The study programme was evaluated by the EVALAG (Germany) agency in 2012.

The programme awards the degree of Professional Bachelor in Civil 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 1st 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

The study programme *Civil Engineering* at VCTD, has the aim (as described within the SER) to educate structural engineer specialists, who will be able to plan their activities, organize and technically supervise construction related works and function within a competitive labour market. In addition to that, the programme aims to train specialists that will have creative thinking and be able to work in teams, thus make individual decisions responsibly, striving to develop in their engineering professional area. Upon successful completion of the programme, the graduates receive a professional bachelor in structural engineering. The RP found the aims clear but not well stated (the English translations requires improvement) in the self-study report. In addition to that, after the RP visited the programme's webpage, the following aims were found (Civil Engineering page, English Version):

"Aims of the study programme: The graduate having completed professional bachelor's degree has traction rolling stock control skills, is able to plan and organize rolling stock maintenance, exploitation, repair and modernization works according to acquired qualification, is able to make technical decisions individually, to work successfully in a competitive market and develop himself/herself in his/her professional activities."

These aims are not the same as the ones described in the submitted report, while this can be misleading (misinformation) to foreign applicants. The College administration stated that the website is already under maintenance and will be updated soon.

The Civil Engineering programme has developed a Table which presents the correlation of the 8 programme learning outcomes (PLOs) to the courses that are offered by the programme (see Table 2 page 6 of the SER). The number of the PLOs was found to be sufficient. After a detailed review of this Table, the RP found that the last PLO was not clear and also difficult to assess. Furthermore, the "life-long learning" skill is not included in any of the 8 PLOs, which is considered to be a weakness of the developed PLOs thus the programme itself and its graduates. Deriving graduates that have the ability of adaptability, manage uncertainty and be able to "Learn how to Learn" is significant in any engineering field. This has to be integrated as well within the courses that will be connected to this skill. It is also recommended to assign a code to each PLO so as to be able to use them in a compact manner within tables (especially within Syllabi and Instructor Reports).

The RP also recommends the development of a matrix that will map the courses with the PLOs so as to be able to assess whether the mapping is balanced or not. The number of courses that are

connected with each PLO will be easily depicted this way and the programme will be able to balance the mapping. In addition to that, courses such as Final Project, Final Practice and Internship should be connected with all PLOs within the table. This was not depicted in Table 2 of the SER.

The aims and learning outcomes (as described in the SER) of the academic programme are based on the public needs and the needs of the labour market. The construction industry of Lithuania that relates to the building development and maintenance showed an increase the last 5 years hence the labour market demands will host the new graduates accordingly. Given that the programme is aiming on delivering structural engineering specialists, its developed aims and learning outcomes were found to be based to the professional requirements.

According to the Lithuanian Qualification Framework (Level 6), the Civil Engineering programme aims and PLOs were found to be consistent with the type level of studies and qualifications offered by the programme.

The RP found that the name of the programme (Civil Engineering), its learning outcomes, content and the qualifications offered are compatible with each other.

2.2. Curriculum design

The study programme Civil Engineering is one of the three study programmes in the field of civil engineering that is delivered at the Vilnius College of Technologies and Design.

The programme Civil Engineering with a total volume of 180 ECTS credits (e.g. 4800 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 is met in the volume of the General College study subjects (15 ECTS). Subjects related to the study field have 135 ECTS, special study subjects have 30 ECTS, optional subjects have 9 ECTS, the practice has 30 ECTS and the Final project has provided 12 ECTS. The maximum number of subjects per semester is seven, which is also aligned with the relative rules and regulations.

From the analysis of the study plan it appears that the student workload is distributed evenly throughout all 3 years of the study programme (full-time) and 50% of the hours are allocated as contact (teaching) hours.

After the first three semesters, the proportion of the theoretical part (lectures) is reduced and hours of individual work are increased especially in the last semester due to the development of the Final Project course and are therefore found to be appropriate for the plan. Consultation hours remain almost constant through the whole study program. Reduction of the practical work hours is compensated by the Practice performed during the last three semesters. Subjects and modules appear to be consistent with the type and level of the studies.
The module system for the main subjects of the study field may well be accounted as good practise, given that the study programme provides the students with the complex view on engineering problems and the links between them. The size of the modules is appropriate and meets the legal requirements (more than 10 ECTS). The RP found that, some of the English names given to the modules were not standard, thus consideration should be given to define more accurately the English names of Module 1 and 2 in the study plan. The English name of Module 2 presented in the SER's Annex 1 (Module 2. Calculation of structures) is not appropriate and consistent as a generally accepted civil engineering course name.

One of the defined PLOs is the ability to analyse and make structural decisions and to prepare the structural part of a building design. The majority of the real structural systems of buildings behave according to statically indeterminate framing systems, but the RP found that in the content of relevant subjects (Applied Mechanics and Module 2. Structural calculations) this topic does not seem to be included. Since the qualification degree of professional bachelor in structural engineering is awarded after graduation, it is suggested to include into the programme topics about statically indeterminate systems and also strengthen the structural design section.

Each of the subject ends with an individual work (IW) or exam (E), e.g. 47% of the subjects are assessed by a final exam.

It was also found from the SER that, general College subjects like *Mathematics*, *Applied Physics*, *Chemistry* and *"non- technical"* subjects are common for all three programmes and their content is appropriate for the programme.

The overall construction of the Core Curriculum of the Civil Engineering programme is found to be appropriate to ensure the defined learning outcomes, as it includes all subjects of the civil engineering generic groups (Mathematics, Science, Information Technology, Design, Business Context and Engineering Practice). The programme curriculum design is kept in good balance between providing basic knowledge of general Engineering fundamentals and imparting relevant practical skills in different subject areas of civil engineering. Although the study programme Civil Engineering has a volume (approx. 25%) of similar subjects with the study programme Building

Engineering Systems, it is found that the content of the subject is adapted to the relevant programme and intended learning outcomes.

The students are additionally familiarized with the latest achievements in science and technologies via educational and cogitative trips to real projects and to companies producing building materials or systems and operating in the field of civil engineering. The positive aspect of the programme is the integration of the subject of Building Information Systems (BIM) as it is currently a growing trend and necessity in the construction industry. This reflects that the programme is continuously being updated according to the requirements of the industry. Practically this is done by hosting joint projects between students of the Building Engineering Systems and the Civil Engineering programmes. This is considered as an evidence of good practise.

2.3. Teaching staff

All the teachers, 26 in 2015/16 academic year (a/y), working in the Civil Engineering study programme, have at least a Master's degree or an equivalent higher education degree. Ph.D. holders also teach the study field subjects (33,3%). A total of 4 teachers had Ph.D. titles in the 2015/16 a/y and 6 teachers in the 2016/17 a/y.

Subject teachers of the Civil Engineering study programme have a suitable and adequate practical and pedagogical experience (Annex 2 of SER) to ensure proper course delivery. A 77% of the programme teachers have at least three years of practical experience in the subject field. The majority of teaching staff have very long teaching experience (only 1 teacher out of 26 had less than 3 years, Annex 2 of SER). Teachers' practical experience update requirement is regulated by the procedure, established with the College internal document. Nevertheless, College has mentioned in the SER an insufficient updating of teacher qualifications through internships at companies as a weakness of the Civil Engineering study programme. The RP recommends to establish a clear and formalized procedure for the renewal of the practical experience of staff.

Teachers of the Civil Engineering programme have updated their pedagogical and practical qualification in various forms: preparation and executing of national and international projects, participation in qualification updating events (courses, seminars, conferences, internships), also participation in international programmes like Erasmus+ (see Annexes 2 and 3 of SER).

Teachers, as qualified and competent specialists, are members of various professional committees and participating in assessment commissions of different international competitions.

In order to achieve individual and organizational goals, teachers are preparing annual professional and pedagogical competence improvement plans. Every five years, the teachers are participating in the (re)election process to the position when their qualification is re-evaluated.

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 and at least three years of practical work experience in study field.

During the assessment period 16 programme teachers participated in exchange visits to educational institutions in 10 countries. The College had also 19 incoming teachers from Poland, Estonia, Bulgaria, Denmark, Spain, France, Turkey, Portugal and Kazakhstan.

The Procedure of Composition of Educational Workload of the Teachers of the College regulates the educational workload of teachers, which is 1,548 hours per a/y and includes auditorial work (not more than 50%), non-contact work (15%), methodical activity (15%), applied scientific research (10%) and organizational activity (10%).

The Staff/Student Ratio of Civil Engineering programme is 1:19, which is found ideal and the number of the teaching staff is adequate to ensure learning outcomes. However, taking into consideration, that 18 teachers out of 26 Civil Engineering study programme teachers are also included in the teachers' list of Building Engineering Systems study programme, which has a Staff/Student Ratio of 1:13, makes the overall Staff/Student Ration of the two programmes equal to 1:32 for those 18 teachers. That ratio is high and might have influence to the teachers' ability to dedicate enough time to all students. The RP suggests to increase the number of teaching staff by accounting the overall ratio and not the virtual ratio that is found to be not realistic.

Staff turnover in the Civil Engineering programme is small based on the teaching experience data provided in the SER Appendix 2. Three new lecturers were employed during the assessment period.

The average age of the teachers, implementing the Civil Engineering programme, is 43,1 (15% are under 30, 50% are 31-45, 27% are 46-60 and 8% are 61 and over). The average age and the age distribution was found to be satisfactory.

During the evaluation team site visit meeting jointly with the Civil Engineering and Building Engineering Systems programmes teachers, it was noticed that from the 12 teachers present only 3 were employed at a full-time basis and the rest were part-timers. The faculty were asked to provide the reason that led them to choose the part-time option, where the clarified reason for that was the low remuneration of College work, which mostly depends from the governmental policy and cannot

be influenced by the College. The large number of part-time teachers has influenced also the study process as study programme students noted. Students complaint that full-time teachers have more time for personal consultancy than part-time teachers and they wished to have more full-time faculty. The RP recommends the increase of the full-time faculty in the programme in order to overcome this weakness.

92% of the teachers have pedagogical experience over 5 years (Annex 2 of SER). New teachers are hired using a system of public competition for the position where the candidates are evaluated based on their qualification using criteria that assesse the candidates' academic, pedagogical and professional activities.

Teachers' professional improvement is regulated by the College Outlines of Qualification Requirements of Duties and their achievements are evaluated during the attestation every 5 years.

Main qualification update methods are participation at scientific conferences (in average 15 persons annually), international exchange (4 persons every a/y), courses and seminars (40 persons every a/y) and internship (1 person every a/y, in total 5 persons during the evaluation period). Practical knowledge acquired during the internship is used for updating the content of the subjects.

Teachers are participating in international exchange programmes (16 teachers in 10 countries during the evaluation period). The College organizes the Erasmus+ funds application for exchange twice a year. Erasmus+ exchange visits provides teachers with the ability to acquire best practices of international partners.

The teachers of the Civil Engineering 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). Lecturers of the study programme have organized during the assessment period several events: 4 scientific-practical conferences and 22 qualification updating seminars for external clients.

During the assessment period teachers of the study programme cooperated with other higher educational institutions (e.g. Tallinn University of Applied Sciences, Tampere University of Technology in Finland) for joint applied research and for performing other activities (competitions of students, international conferences, exchange visits), that are directly connected with the study programme.

Teachers participated in the project “Enhancing Responsible Research and Innovation through Curricula in Higher Education (EnRRICH)” in 2015, using the EU Scientific Research and Innovations Programme “Horizon 2020” possibilities.

Best practice, obtained from the cooperation and research activities, has been implemented in the Civil Engineering programme and the content of subjects/modules has been updated. As a result of the cooperation with social partners, some of the learning/teaching facilities were updated, which helped students in developing professional knowledge and in participating more actively in applied research.

Applied research projects and expert activities implementation is an important additional source of funds for the College and according to the SER insufficient development of applied scientific, contracting and expert activities is mentioned as a weakness of the study programme. In order to overcome this weakness, the College has decided to develop the applied scientific activity plan for the years 2017-2020. The activity plan has to be assessed in the new external evaluation cycle of the programme.

The students (who participated in the meeting with the RP) were asked to rate the Civil Engineering programme’s teachers, grading them with an overall 8.5 out of 10, while the alumni graded them with an overall 8 out of 10. This is an evidence of the students’ satisfaction.

2.4. Facilities and learning resources

For the academic needs of the Civil Engineering programme, the College provides 23 classrooms and 5 laboratories. All premises are equipped with technical software facilities and learning resources. Classrooms and laboratories comply with hygiene norms HN 102:2001.

For the studies of the Civil Engineering programme, students use technical facilities and laboratories such as: computerized work places, multimedia, mobile screens and magnetic boards. The laboratories are equipped with specialized stands: stand of water management for buildings, stand of heating system, stand for air conditioning, hydraulic and heat pump stands. The laboratory of Geodesy was found to be equipped with modern geodetic equipment. As for the laboratory of Material Sciences and Standardization was equipped with instruments and devices for testing of various building materials. Organization of professional practices is regulated by the Academic Council Protocol. Practices are of 3 types: Internship of construction works which is executed in auditoriums, laboratories, site visits to construction companies and specialized fairs. Specialized practice of Geodesy is carried out within the premises of the College.

In regards to the study needs of the Civil Engineering programme, there is a sufficient number of teaching and learning resources. The main source of teaching material is located in the College library. Among the total amount of 36,076 titles of publications, 390 titles are devoted for the study of the CE programme. Publications are listed in the web site of the College as well, while the learning resources of the College library are frequently updated.

The library has subscribed in 3 databases. References and access to databases are available from the computerized workplaces found in the College library. Methodological material, lectures, recommendations for course papers and projects are periodically updated and are available as hard and soft copies. An electronic virtual learning environment is also in place.

The RP recommends that the library should allocate the necessary funds so as to purchase the Eurocode standards for the design of structures.

2.5. Study process and students' performance assessment

Since 2010 the admission and ranking of future students is organized by Association of Lithuanian Higher Education Institution for General Admission and main criteria is competition-based score. The main requirements for entrants of Civil Engineering programme are the following: Matura Examination assessments of Mathematics (coefficient – 0.4), Lithuanian language and literature (coefficient – 0.2), other subject examination (coefficient – 0.2) and annual assessment of Physics (coefficient – 0.2). The highest grade of students admitted to the Civil Engineering programme in 2016 was 6,63 and the lowest 1,42 (on the scale of 10). Admission requirements can be found on College webpage.

The main reason for students dropping out as was stated in the SERs (page 25), is poor prior preparation in Mathematics and Physics subjects in the high school. A part of future students does not take the Matura examination in Mathematics. Comparing "drop out" numbers through the years (starting from the beginning of the programme in 2012), "drop outs" have constantly been decreasing and reached only 13 students in 2016. Although the study process is related to practical activities, 920 hours of 4,800 are theoretical activities. The total number of consultancies (415 hours) are allocated to help the students prepare for progress assessments. The College organises educational or cognitive trips, during which the students face real life problem-situations that they have discussed during lectures. The average academic performance of the students in the study programme varies from 6.45 to 7.36, however, 1st year student performance is lower.

College students are active in participating in different kinds of contests and conferences related to their speciality like the national contest “Smart city”, and are encouraged to do so by teachers. For example, in 2015 students attended a conference in Florence. This is an evidence of good practice.

College has 45 Erasmus+ partners with foreign high schools. 30 students of the College participated in the Erasmus+ programme, while there were 65 incoming students, among which were also students of the Civil Engineering programme. Information about student mobility programmes can be found on the College webpage, as well as in College organised events where students talk about their experience in such programmes. Students stated to be satisfied about the way information is provided.

First year students are introduced to the academic processes by the first week. There is social and financial support available for students and students with good academic performance receive scholarships. Students are provided with individual consultations if they face any problems with their studies. The consultation timetable can be found on the College’s webpage, while teachers are reachable by phone or email. The College uses the MOODLE informational platform; however, only around 20% of the study subject information is uploaded on the platform. It is recommended to increase the number of courses that have a MOODLE webpage.

It was found that, students can voice their opinion about study quality through surveys; however, the students do not feel the proposed changes are taken seriously by the College. Students would appreciate closer relations with teachers. It is advisable that there would be more teachers who work full-time given that the part-time teachers are not found in the Campus for consultation. The library of the College is sufficient and the College has a career centre. There is also the possibility to do sports, according to the students’ statements.

Students are evaluated by their studying results and the evaluation is based on an accumulation index and examination grade. Examination results are posted via the internet system within three days and are discussed and analysed by the teachers thoroughly.

The study programme has been constantly updated taking into account the required specialist up-to-date skills, thus more than 90% of graduates have a successful enrolment in the labour market of their speciality. The College’s social partners confirm that students of the programme possess the expected knowledge and practical skills. The RP found that, there is no relation between College and its graduates, so it is strongly recommended improve this relation by, for example, activating the Alumni club. Social partners have also mentioned that they would like to be further included in the study programme quality improvement.

2.6. Programme management

The programme management is performed by the corresponding faculties of the College, where the Civil Engineering study programme is under the umbrella of the technological sciences in the Faculty of Civil Engineering. After the visit, the RP interviewed the Dean of the Faculty that is responsible in managing the Civil Engineering and BES programmes, thus found 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 who then discusses them with the Faculty Board for approval. Then the proposed changes are sent to the Academic Council for final approval. The RP finds this approach efficient, given that the monitoring of the programme is performed in a consistent way by the appointed Dean.

According to the internal quality assurance 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 Civil Engineering programme (based on the QA manual). 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 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.

The programme is following the internal quality assurance procedures that foresee the utilization of all stakeholders' opinion so as 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 4 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 support the programme's efforts to monitor the progress towards achieving its vision. As mentioned in the SER, the EVALG which is a German accreditation agency, assessed the programme in 2012 receiving positive comments. It is recommended to find a different external accreditation body that will further help in the improvement of the programme.

All stakeholders of the programme are involved in the evaluation procedure, while the need for improvement of the level of students and social partners' participation in the evaluation and improvement processes, is acknowledged by the programme and stated within the SER. Even though the weakness is stated within the SER, the proposed remedial actions were not found to be specific. The programme should propose solid methods through which it will ensure that the students and social partners will be further actively involved in committees and evaluation panels, thus further contribute to the evaluation and improvement of their programme. The utilization of the Alumni club, that was found to be inactive, is also recommended.

The internal QA system which is in place at the College level, fortifies the Civil Engineering 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 was also developed but currently in the process of implementation. The QA measures are sufficient and well developed. The RP recommends the development of a detailed course portfolio for each course, in order to further assess the courses' learning outcomes achievement.

III. RECOMMENDATIONS

1. The RP found the aims clear but not well stated (the English translations requires improvement) in the self-study report.
2. The programme aims found in the web page are not the same as the ones described in the submitted SER, while this can be misleading (misinformation) to foreign applicants. The web page of the programme should be available in both Lithuanian and English languages.
3. After a detailed review of the Table 2 page 6 of the SER, the RP found that the last PLO was not clear and also difficult to assess. A further refinement of the PLOs should be performed, were deemed necessary.
4. Furthermore, the "life-long learning" skill is not included in any of the 8 PLOs. It is strongly recommended to add this skill within a PLO and integrate this within the courses that foresee the development of the "long-life learning" skill. This is a clear weakness of the developed PLOs.
5. The RP also recommends the development of a matrix that will map the courses with the PLOs so as to be able to assess whether the mapping is balanced or not.
6. The content of the programme and names of the modules needs some revisions as still some specialist areas are not covered in the programme and the structural design section should be strengthened.
7. In order to enable the students to develop deeper knowledge, understanding, capabilities and attitudes in the context of the programme of study, the strengthening of the analytical part of the Final Project should be considered.
8. It is suggested to increase the amount of available methodological content available on the electronic information platform used in the College (MOODLE).
9. It is recommended to take actions to develop stronger lasting student-teacher relationships, e.g. an active Alumni club that will organize events.
10. The College has mentioned in its SER an insufficient updating of teachers' qualifications through internships at companies as a weakness of the Civil Engineering programme. Based on that, the RP suggests to establish a 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 two months of training or by practice through internship or through an in-service training.
11. The Staff/Student Ratio is 1:19, which is ideal according to international standards, but jointly with the Building Engineering Systems programme students, the actual ratio was found to be 1:32, which is high and might influence the teachers' ability to dedicate enough time to all

students. The RP suggests to increase the number of teaching staff by accounting the overall ratio and not the virtual ratio that is found to be not realistic.

12. During the RP site visit meeting jointly with the Civil Engineering and Building Engineering Systems programme teachers, it was found that from the 12 teachers present only 3 were employed as full-time and the rest were part-timers. The provided reason for this phenomenon was the low remuneration of the College work. The large number of part-time teachers has influenced the study process as study programme students noted, where full-time teachers had more time for personal consultation with students than part-time teachers. It is recommended for the College to find possibilities to improve the salary policy and increase the ratio of full to part-time teachers, so as to ensure the quality of the Civil Engineering programme.
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 sufficient 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 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 that the library should allocate the necessary funds so as to purchase the Eurocode standards for the design of structures.
17. The RP recommends a simplification of the QA procedures that foresee the implementation of the internal self-evaluation standards, to further improve the efficiency of the QA unit.
18. As mentioned in the SER, the EVALG which is a German accreditation agency, assessed the programme in 2012 receiving positive comments. It is recommended to find a different external accreditation body that will further help in the improvement of the programme.
19. The programme should propose solid methods through which it will ensure that the students and social partners will be further actively involved in committees and evaluation panels, thus further contribute to the evaluation and improvement of their programme. The utilization of the Alumni club, that was found to be inactive, is also recommended (i.e. organize events, distribute and collect surveys, etc.).
20. The RP recommends the development of a detailed course portfolio for each course, in order to further assess the courses' learning outcomes achievement.

IV. EXAMPLES OF EXCELLENCE *

The programme has strong connections with the industry, while the social partners expressed their strong support and preference to the programme. The integration of BIM technology in the curriculum and especially the Final Thesis illustrates that the programme strives to incorporate state-of-the-art technologies. Furthermore, the programme's Final Thesis is performed through a multi-disciplinary concept by integrating the Civil Engineering students with the Building Engineering System students through common projects. This is an international trend that is recommended by accreditation bodies such as ABET, hence illustrates the strength of the programme.

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 but not well stated (the English translations requires improvement) in the self-study report. In addition to that, after the RP visited the programme's webpage, the aims and PLOs were not found to be available in English. The College administration stated that the website is already under maintenance and will be updated soon. The number of the programme learning outcomes (PLOs) was found to be sufficient. After a detailed review of the PLO Table, the RP found that the last PLO was not clear and also difficult to assess. Furthermore, the "life-long learning" skill was not included in any of the 8 PLOs, which is considered to be a weakness of the developed PLOs, thus the programme itself and its graduates. The RP also recommends the development of a matrix that will map the courses with the PLOs so as to be able to assess whether the mapping is balanced or not.

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 PLOs. The content of the programme and names of the modules need revisions as still some specialist areas are not covered in the program. The strengthening of the analytical part of the Final Project should be considered. Proceeding with integrating the digital solutions in the study process is suggested.

The study programme is provided by staff meeting legal requirements and the qualifications of the teaching staff are adequate to ensure learning outcomes. The Practical Work Internship Procedure has to be established in order to ensure the requirement that 50% of the staff members practical experience has to be updated at least once every five years through a two months training or by practice in internship or in an in-service training. The Staff/Student Ratio is 1:19, which is ideal according to international standards, but jointly with the Building Engineering Systems programme, the ratio becomes 1:32, which is high and might have a negative influence on the teachers' ability to dedicate enough time to all students. Teaching staff turnover was found to be low and able to ensure an adequate provision to the programme. Concerning is the large number of part-time teachers, which has a negative influence on the study process. The staff professional and pedagogical development activities are reviewed every 5 years.

For the academic needs of the Civil Engineering programme, the College provides with 23 classrooms and 5 laboratories. All premises are equipped with technical software facilities and learning resources. The technical facilities and laboratories were found to be of sufficient level.

Academic process includes 3 types of practices: Internship of construction works, practice of geodesy, industrial and final practice, that are well supported by the laboratory facilities. The library should allocate the funds in order to purchase the European standards for the design of structures.

Admission requirements are clear and publicly available. Erasmus+ mobility programmes are successfully implemented into the College. It is suggested to increase the amount of available methodological content available on the electronic information platform MOODLE used at the College. It is recommended to take actions to develop stronger lasting student-teacher relationships, i.e. activate the Alumni club. The College assessment system is clear, adequate and publicly available, while the results of students are discussed and analyzed between the students and teachers thoroughly. The majority of graduates meet the programme provider expectations and the programme is highly valued by social partners.

The RP finds the management of the programme efficient, given that the monitoring of the programme is performed in a consistent way by the appointed Dean. 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 programme should propose solid methods through which it will ensure that the students and social partners will be further actively involved in committees and evaluation panels, thus further contribute to the evaluation and improvement of their programme. The utilization of the Alumni club, that was found to be inactive, is also recommended. The QA measures are sufficient and well developed. The RP recommends the development of a detailed course portfolio for each course, in order to further assess the courses' learning outcomes achievement.

V. GENERAL ASSESSMENT

The study programme *Civil Engineering* (state code – 653H21004) 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
	Total:	**18**

*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

Vertimas iš anglų kalbos

VILNIAUS TECHNOLOGIJŲ IR DIZAINO KOLEGIJOS PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS *STATYBA* (VALSTYBINIS KODAS – 653H21004) 2017 KOVO 13 D. EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-45 IŠRAŠAS

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus technologijų ir dizaino kolegijos studijų programa *Statyba* (valstybinis kodas – 653H21004) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
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
	Iš viso:	**18**

* 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)

<...>

IV. SANTRAUKA

Ekspertų grupė nustatė, kad savianalizės suvestinėje pateikti studijų programos tikslai yra aiškūs, bet nepakankamai gerai suformuluoti (formuluotes anglų kalba reikėtų tobulinti). Be to, ekspertų grupei peržiūrėjus studijų programos tinklalapį, buvo nustatyta, kad studijų programos tikslai ir studijų rezultatai nepateikti anglų kalba. Kolegijos administracija informavo, kad interneto svetainė šiuo metu atnaujinama. Programos studijų rezultatų skaičius yra pakankamas. Išsamiai peržiūrėjusi programos studijų rezultatų lentelę, ekspertų grupė nustatė, kad paskutinis programos studijų rezultatas nėra aiškus ir jį taip pat sunku įvertinti. Be to, „mokymosi visą gyvenimą“ įgūdis neįtrauktas nė į vieną iš 8 programos studijų rezultatų, ir tai laikoma parengtų studijų rezultatų, taigi ir pačios programos bei jos absolventų, trūkumu. Ekspertų grupė taip pat rekomenduoja parengti matricą, kurioje būtų galima priskirti programos studijų rezultatus dalykams, kad būtų galima įvertinti, ar išlaikyta pusiausvyra, ar ne.

Programos sandara atitinka teisinį reglamentavimą, o dalykų ir modulių turinys atitinka studijų rūšį ir lygmenį. Dalykų moduliai atitinka koleginių profesinio bakalauro laipsnį suteikiančių studijų lygį ir yra tinkami numatytiems studijų rezultatams pasiekti. Dalykų modulių studijų rezultatai iš esmės atitinka programos studijų rezultatus. Reikėtų peržiūrėti studijų programos turinį ir modulių pavadinimus, nes programa neapima kai kurių specializuotų sričių. Reikėtų stiprinti analitinę baigiamųjų darbų dalį. Siūloma tęsti skaitmeninių sprendimų integravimą į studijų procesą.

Studijų programą vykdantis personalas atitinka teisės aktų reikalavimus, o dėstytojų kvalifikacija yra tinkama studijų rezultatams užtikrinti. Reikia nustatyti praktinės stažuotės tvarką, siekiant atitikti reikalavimą, kad 50 proc. dėstytojų praktinė patirtis būtų atnaujinama mažiausiai kas penkerius metus baigiant dviejų mėnesių trukmės mokymus arba atliekant praktinę stažuotę, arba keliant kvalifikaciją dirbant. Dėstytojų ir studentų santykis yra 1:19 – idealus pagal tarptautinius standartus, tačiau kartu su Statinių inžinerinių sistemų studijų programos studentais šis santykis iš tiesų yra 1:32. Toks didelis santykis gali turėti poveikį dėstytojų gebėjimui skirti pakankamai laiko visiems studentams. Personalo kaita nedidelė, todėl užtikrinamas tinkamas studijų programos vykdymas. Tačiau nerimą kelia didelis ne visu etatu dirbančių dėstytojų skaičius, nes tai turi neigiamą poveikį studijų eigai. Personalo profesinio ir pedagoginio tobulinimosi veikla peržiūrima kas penkerius metus.

Statybos studijų programos akademiniams poreikiams tenkinti kolegija suteikia 23 auditorijas ir 5 laboratorijas. Visos patalpos aprūpintos technine programine įranga ir metodiniais ištekliais. Techninių patalpų ir laboratorijų kokybė pakankama. Vykdomos 3 praktikos: statybos darbų praktika, geodezijos praktika, gamybinė ir baigiamoji praktika, kurioms puikiai pritaikyta laboratorijų įranga. Biblioteka turėtų skirti lėšų ir įsigyti Eurokodo konstrukcijų projektavimo standartus.

Priėmimo reikalavimai yra aiškūs ir viešai prieinami. Kolegijoje sėkmingai vykdomos „Erasmus+“ judumo programos. Siūloma didinti metodologinės medžiagos apimtį kolegijos naudojamoje elektroninėje informacinėje platformoje MOODLE. Rekomenduojama imtis veiksmų, siekiant stiprinti ilgalaikius studentų ir dėstytojų ryšius, pvz., atnaujinti Alumnų klubo veiklą. Kolegijos vertinimo sistema aiški, tinkama ir viešai prieinama, o studentai kartu su dėstytojais aptaria ir nuodugniai išanalizuoja studentų rezultatus. Didžioji dalis absolventų atitinka studijų programos vykdytojų lūkesčius, o socialiniai partneriai labai vertina studijų programą.

Ekspertų grupės nuomone, programos vadyba veiksminga, nes studijų programos stebėseną nuosekliai atlieka paskirtas dekanas. Kolegijos Kokybės užtikrinimo skyrius turi tinkamą struktūrą ir yra gerai organizuotas. Vizito metu ekspertų grupei buvo pateikta su kokybės užtikrinimu susijusi

medžiaga, kurią parengė Kokybės užtikrinimo skyrius, ir kolegijos lygiu atlikta 30 veiklos rezultatų rodiklių analizės ataskaita. Tai yra akivaizdus geros praktikos nustatant patikimą kokybės užtikrinimo sistemą įrodymas. Ekspertų grupė rekomenduoja supaprastinti kokybės užtikrinimo procedūras, kuriomis numatytas vidinio įsivertinimo standartų įgyvendinimas, siekiant toliau didinti Kokybės užtikrinimo skyriaus veiksmingumą. Programoje turėtų būti siūlomi patikimi metodai, padėsiantys užtikrinti, kad studentai ir socialiniai partneriai toliau aktyviai dalyvautų komitetų ir vertinimo grupių veikloje, taip prisidėdami prie tolesnio studijų programos vertinimo ir tobulinimo. Taip pat rekomenduojama išnaudoti šiuo metu neaktyvų Alumnų klubą. Kokybės užtikrinimo priemonės yra pakankamos ir gerai parengtos. Ekspertų grupė rekomenduoja parengti išsamų kiekvieno dalyko aprašą, kad būtų galima toliau įvertinti, kiek pasiekti dalykų studijų rezultatai.

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IV. GEROSIOS PRAKTIKOS PAVYZDŽIAI

Studijų programa palaiko glaudžius ryšius su pramonės sektoriumi, o socialiniai partneriai išreiškė stiprią paramą ir palankumą studijų programai. Statinio informacinio modeliavimo technologijų integravimas į studijų turinį ir ypač baigiamąjį darbą rodo, kad studijų programa stengiasi apimti naujausias technologijas. Be to, baigiamieji darbai rengiami remiantis daugiadisciplinišKumo principu, projektus bendrai atliekant Statybos studijų programos ir Statinių inžinerinių sistemų studijų programos studentams. Tai yra tarptautinė tendencija, kurią rekomenduoja tokios akreditavimo įstaigos kaip ABET, ir ją galima priskirti studijų programos stiprybei.
Kokybės užtikrinimo skyrius yra veikiantis ir kompetentingas. Kolegija turėtų ir toliau remti Kokybės užtikrinimo skyriaus pastangas, siekiant optimalios integracijos studijų programos lygiu.
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III. REKOMENDACIJOS

1. Ekspertų grupė nustatė, kad savianalizės suvestinėje pateikti studijų programos tikslai yra aiškūs, bet nepakankamai gerai suformuluoti (formuluotes anglų kalba reikėtų tobulinti).
2. Studijų programos tikslai, pateikti interneto svetainėje, nesutampa su savianalizės suvestinėje pateiktais tikslais, o tai gali klaidinti užsienio studentus. Studijų programos tinklalapis turėtų būti prieinamas lietuvių ir anglų kalbomis.
3. Išsamiai peržiūrėjusi savianalizės suvestinės 6 puslapyje pateiktą 2 lentelę, ekspertų grupė nustatė, kad paskutinis programos studijų rezultatas nėra aiškus ir jį taip pat sunku įvertinti. Reikėtų kur reikia toliau tobulinti programos studijų rezultatus.

4. Be to, „mokymosi visą gyvenimą“ įgūdis neįtrauktas nė į vieną iš 8 programos studijų rezultatų. Labai rekomenduojama įtraukti šį įgūdį į programos studijų rezultatus ir integruoti į dalykus, numatančius „mokymosi visą gyvenimą“ įgūdžio ugdymą. Tai akivaizdus parengtų programos studijų rezultatų trūkumas.
5. Ekspertų grupė taip pat rekomenduoja parengti matricą, kurioje būtų galima priskirti programos studijų rezultatus dalykams, kad būtų galima įvertinti, ar išlaikyta pusiausvyra, ar ne.
6. Reikėtų peržiūrėti studijų programos turinį ir modulių pavadinimus, nes programa neapima kai kurių specializuotų sričių, o konstrukcijų projektavimo dalis turėtų būti sustiprinta.
7. Kad studentai galėtų įgyti gilesnių žinių, supratimo, gebėjimų ir nuostatų studijuodami šią studijų programą, reikėtų apsvarstyti, kaip stiprinti analitinę baigiamųjų darbų dalį.
8. Siūloma didinti metodologinės medžiagos apimtį kolegijos naudojamoje elektroninėje informacinėje platformoje (MOODLE).
9. Rekomenduojama imtis veiksmų, siekiant stiprinti ilgalaikius studentų ir dėstytojų ryšius, pvz., veikiantis Alumnų klubas galėtų organizuoti renginius.
10. Savianalizės suvestinėje kaip vieną iš Statybos studijų programos trūkumų kolegijos atstovai nurodė nepakankamai keliamą dėstytojų kvalifikaciją stažuojantis įmonėse. Remdamasi šiuo pastebėjimu, ekspertų grupė siūlo nustatyti praktinės stažuotės tvarką, siekiant atitikti reikalavimą, kad 50 proc. dėstytojų praktinė patirtis būtų atnaujinama mažiausiai kas penkerius metus baigiant dviejų mėnesių trukmės mokymus arba atliekant praktinę stažuotę, arba keliant kvalifikaciją dirbant.
11. Dėstytojų ir studentų santykis yra 1:19 – idealus pagal tarptautinius standartus, tačiau kartu su Statinių inžinerinių sistemų studijų programos studentais šis santykis iš tiesų yra 1:32. Toks didelis santykis gali turėti poveikį dėstytojų gebėjimui skirti pakankamai laiko visiems studentams. Ekspertų grupė siūlo didinti dėstytojų skaičių apskaičiuojant bendrą, o ne virtualų santykį, kuris yra nerealistiškas.
12. Vizito metu ekspertų grupė susitiko bendrai su Statybos ir Statinių inžinerinių sistemų studijų programų dėstytojais ir nustatė, kad iš dalyvavusių 12 dėstytojų tik trys dirbo visu etatu, o likusieji dirbo ne visą darbo laiką. Šį reiškinį jie paaiškino mažu kolegijos mokamu atlyginimu. Didelis ne visu etatu dirbančių dėstytojų skaičius turi poveikį studijų eigai, kaip pastebėjo studentai, nes visu etatu dirbantys dėstytojai turi daugiau laiko asmeninėms studentų konsultacijoms nei dėstytojai, dirbantys ne visu etatu. Kolegijai rekomenduojama rasti galimybių, kaip pagerinti atlyginimų politiką ir padidinti visu etatu dirbančių dėstytojų skaičių, kad būtų galima užtikrinti Statybos studijų programos kokybę.

13. Kolegija turėtų nustatyti patikimą politiką dėl šalies ir tarptautinėse konferencijose kasmet dalyvaujančių dėstytojų finansavimo, o finansinė parama turėtų būti aiškiai suformuluota, iš anksto nustatant kiekvienam dėstytojui skiriamą pakankamą sumą.
14. Kolegija turėtų parengti aiškią politiką, kaip paskirstomos fakultetui skiriamo projekto lėšos, ir su šia politika supažindinti visus darbuotojus. Pridėtinės išlaidos neturėtų viršyti 20 proc. bendro projekto finansavimo.
15. Rekomenduojama paviešinti visus fakulteto turimus politikos dokumentus kolegijos interneto svetainėje.
16. Ekspertų grupė rekomenduoja bibliotekai skirti reikiamų lėšų ir įsigyti Eurokodo konstrukcijų projektavimo standartus.
17. Ekspertų grupė rekomenduoja supaprastinti kokybės užtikrinimo procedūras, kuriomis numatytas vidinio įsivertinimo standartų įgyvendinimas, siekiant toliau didinti Kokybės užtikrinimo skyriaus veiksmingumą.
18. Kaip minima savianalizės suvestinėje, 2012 m. EVALG – Vokietijos akreditavimo įstaiga – įvertino studijų programą ir teigiamai apie ją atsiliepė. Rekomenduojama rasti kitą išorinio akreditavimo įstaigą, padėsiančią toliau gerinti studijų programą.
19. Programoje turėtų būti siūlomi patikimi metodai, padėsiantys užtikrinti, kad studentai ir socialiniai partneriai toliau aktyviai dalyvautų komitetų ir vertinimo grupių veikloje, taip prisidėdami prie tolesnio studijų programos vertinimo ir tobulinimo. Taip pat rekomenduojama išnaudoti šiuo metu neaktyvų Alumnų klubą (t. y. organizuoti renginius, dalyti ir rinkti apklausas ir t. t.).
20. Ekspertų grupė rekomenduoja parengti išsamų kiekvieno dalyko aprašą, kad būtų galima toliau įvertinti, kiek pasiekti dalykų studijų rezultatai.

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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)