CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

EVALUATION REPORT

STUDY FIELD of CIVIL ENGINEERING

at KAUNAS TECHNIKOS KOLEGIJA

Expert panel:

1. **Dr. Maria Kyne,** *(panel chairperson), member of academic community;*
2. **Professor dr. Alfredo Soeiro,** *member of academic community;*
3. **Associate Prof. Dr. Ernesta Liniauskienė,** *member of academic community;*
4. **Dr. Mindaugas Gikys,** *representative of social partners;*
5. ***Ms. Diana Malkova,*** *students' representative.*

Evaluation coordinator – *Jūratė Čergelienė*

Report language – English

2021

Study Field Data*

Title of the study programme	Construction Engineering	Road Engineering
State code	6531EX0 09	6531EX0 35
Type of studies	College studies	College studies
Cycle of studies	First cycle	First cycle
Mode of study and duration (in years)	Full-time (3 years), part-time (4 years)	Full-time (3 years), part-time (4 years)
Credit volume	180	180
Qualification degree and (or) professional qualification	Professional Bachelor of Engineering Sciences	Professional Bachelor of Engineering Sciences
Language of instruction	Lithuanian	Lithuanian
Minimum education required	Secondary education	Secondary education
Registration date of the study programme	30-08-2002	30-08-2002

** if there are **joint / two-fields / interdisciplinary** study programmes in the study field, please designate it in the foot-note*

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I. INTRODUCTION

1.1. BACKGROUND OF THE EVALUATION PROCESS

The evaluation of study fields is based on the Methodology of External Evaluation of Study Fields approved by the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC) 31 December 2019 Order No. V-149.

The evaluation is intended to help higher education institutions to constantly improve their study process and to inform the public about the quality of studies.

The evaluation process consists of the main following stages: *1) self-evaluation and self-evaluation report prepared by Higher Education Institution (hereafter – HEI); 2) site visit of the expert panel to the higher education institution; 3) production of the external evaluation report (EER) by the expert panel and its publication; 4) follow-up activities.*

On the basis of this external evaluation report of the study field SKVC takes a decision to accredit study field either for 7 years or for 3 years. If the field evaluation is negative then the study field is not accredited.

The study field and cycle are **accredited for 7 years** if all evaluation areas are evaluated as exceptional (5 points), very good (4 points) or good (3 points).

The study field and cycle are **accredited for 3 years** if one of the evaluation areas was evaluated as satisfactory (2 points).

The study field and cycle are **not accredited** if at least one of evaluation areas was evaluated as unsatisfactory (1 point).

1.2. EXPERT PANEL

The expert panel was assigned according to the Experts Selection Procedure (hereinafter referred to as the Procedure) as approved by the Director of Centre for Quality Assessment in Higher Education on 31 December 2019 Order No. V-149. The site visit to the HEI was conducted by the panel on 15th December, 2021.

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Professor dr. Alfredo Soeiro, *professor at Porto University (Portugal);*
Associate prof. dr. Ernesta Liniauskienė, *Assoc. Prof. at Kaunas Forestry and Engineering University of Applied Sciences (Lithuania)*
Dr. Mindaugas Gikys, *Director of JSC "AIF.LT" (Lithuania);*
Ms. Diana Malkova, *student of International Business Studies at Vilnius University of Applied Sciences (Lithuania).*

1.3. GENERAL INFORMATION

The documentation submitted by the Kauno technikos kolegija follows the outline recommended by SKVC. Along with the self-evaluation report and annexes, the following additional documents have been provided by the college before, during and/or after the site visit:

No.	Name of the document
1.	Access to the Moodle Virtual Learning Environment

1.4. BACKGROUND OF THE STUDY FIELD/STUDY FIELD POSITION/STATUS AND SIGNIFICANCE IN THE HEI

Kauno technikos kolegija (hereafter – college, KTK) is a higher education institution with traditions dating back one hundred years and was renamed to its current title in 2002. KTK is a public educational institution awarding a professional bachelor's degree in engineering, which is a level 6 qualification according to the Lithuanian Qualifications Framework. The college is the only institution among higher education colleges in Lithuania preparing specialists exclusively in the area of technological sciences and the field of engineering sciences.

The study programmes Road Engineering (State Code - 6531EX035) and Construction Engineering (State Code - 6531EX009) have been registered and offered since 30 August 2002. The programmes were last accredited on 21 November 2016. The college follows the principles of research and studies established in Article 3 of the Law on Higher Education and Research. The governing bodies of the college are the College Council, the Academic Council and the Director of the College.

The academic department coordinates the process of management, organisation and marketing of the programmes in all the study fields. The academic community of the college consists of students, teachers and researchers. The community enjoys academic freedom and follows the Code of Academic Ethics, which is prepared and approved by the Academic Council. The interests of students are represented by the Students Association and by their participation in the College Council and the Academic Council.

The Road Engineering and Construction Engineering programmes belong to the civil engineering study field. Programmes in the civil engineering study field account for 25% of the total number of students studying at the college. Specialists in this field have been consistently trained since the school was founded in 1920.

The civil engineering study field programmes have strong relations with the two largest associations in Lithuania: Association of Lithuanian Roads and the Lithuanian Construction Association. Together they unite 178 Lithuanian companies. By working with the associations, the college can respond quickly to changes in the construction and road sectors.

Significant advances have been made in the context of internationalisation. The study field implements a double degree programme under the bilateral agreement with VIA University College in Denmark. The number of student internships in foreign companies has increased significantly, the mobility of teachers of the field increased to 73% during the assessment period.

During the peer review of the Road Engineering and Construction Engineering study programmes carried out in 2017, the programmes were accredited for the maximum period of 6 years until April 28, 2023.

II. GENERAL ASSESSMENT

Civil Engineering study field and first cycle at Kaunas technikos kolegija is given **positive** evaluation.

Study field and cycle assessment in points by evaluation areas

No.	Evaluation Area	Evaluation of an Area in points*
1.	Intended and achieved learning outcomes and curriculum	4
2.	Links between science (art) and studies	3
3.	Student admission and support	4
4.	Teaching and learning, student performance and graduate employment	4
5.	Teaching staff	3
6.	Learning facilities and resources	3
7.	Study quality management and public information	4
	Total:	25

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;
2 (satisfactory) - meets the established minimum requirements, needs improvement;
3 (good) - the field is being developed systematically, has distinctive features;
4 (very good) - the field is evaluated very well in the national and international context, without any deficiencies;
5 (excellent) - the field is exceptionally good in the national and international context/environment.

III. STUDY FIELD ANALYSIS

3.1. INTENDED AND ACHIEVED LEARNING OUTCOMES AND CURRICULUM

Study aims, outcomes and content shall be assessed in accordance with the following indicators:

3.1.1. Evaluation of the conformity of the aims and outcomes of the field and cycle study programmes to the needs of the society and/or the labour market (not applicable to HEIs operating in exile conditions)

(1) Factual situation

According to the SER the civil engineering field study programmes are denominated Construction Engineering (CE) and Road Engineering (RE) of Kaunas technikos kolegija (KTK). Both programmes have full-time and part-time students. According to the SER the goals of the study programmes comply with the requirements from construction stakeholders taking into account the cooperation market research, the recommendations and the trends in the labour and education sectors.

General learning outcomes of the two programmes are the same and the specific outcomes of each programme are reflected in the course units learning outcomes. According to the SER the programmes outcomes (general and specific) are in accordance with the European Qualifications Framework for Lifelong Learning and the Lithuanian Qualifications Framework. This compliance takes into account not only the complexity of competences expected for graduates abut also consider the future mobility of the graduates in national, European and global terms. The programmes design tried to ensure that labour market trends are met and the constant monitoring implies change motivated by the conducted surveys of employers, analysis of the economy development, analysis of the need for specialists and analysis of educational services. These programmes outcomes were designed following a survey of employers in the Lithuanian labour market, according to the SER page 10. This compliance with society needs is also justified with graduate employment rates as shown in figures 4.1 and 4.2 of the SER. The programmes outcomes were designed to take into account the mandatory application of BIM in complex designs and constructions, to respond to the needs of the region for specialists in construction engineering and in road engineering and to prepare graduates to perform to the standards of practice expected in Lithuania.

(2) Expert judgement/indicator analysis

The site visit virtual meetings revealed that cooperation exists between the college administration and related labour market representatives namely alumni and construction companies. It was also noted that there is a concern of the faculty to comply with national investment plans in civil engineering infrastructure and with national and European requirements for construction engineering and road engineering specialists. According to the SER the rates of employment of college graduates also support the adequate response of the college to the changing needs of the labour market.

3.1.2. Evaluation of the conformity of the field and cycle study programme aims and outcomes with the mission, objectives of activities and strategy of the HEI

(1) Factual situation

According to the SER, the information about this conformity is presented in terms of compliance of programme learning outcomes with the KTK overall strategic ambitions. Therefore, the list of programme outcomes was created and is updated and that is reflected (SER section1.1.1.1) in changes to appropriate activities, to programme delivery and to staff upskilling. The college mission, vision, quality and values are expressed in the SER as being part of the Construction Engineering and Road Engineering study programme outcomes. According to the SER (section 1.1.2.1), the programme learning outcomes were chosen to be flexible and adaptable to market needs and responsive to the competency requests of specialists. This set of programme outcomes was also designed to align with the college strategic aim *to be a leader in technical studies in the Baltic region, actively sharing knowledge and contributing to the development of an advanced society and industry.*

(2) Expert judgement/indicator analysis

The analysis of the SER and related documents show that programmes outcomes are defined to comply with the mission, objectives of activities and strategy of the college and with results of market surveys of employer needs. The list of programme outcomes in Annexes 12 and 13 present programme outcomes by module, like *Investigation and Engineering Practice*, reflecting the institutional goals of excellence and of public service. The same judgement is made with the four-unit courses learning outcomes presented in Annex 13.

3.1.3. Evaluation of the compliance of the field and cycle study programme with legal requirements

(1) Factual situation

Table 1.1 of the SER presents compliance between the programmes and the general requirements for degree granting study programmes and the legal acts of the regulations for study ECTS equivalence in terms of the limits of credits, the number of subjects and the number of weekly hours. In fact, the general subjects should be at least 15 credits and this is equal to the credits allocated in the programmes, the study field compulsory subjects should be at least 102 credits distributed by practice 30 credits, by elective subjects for deeper specialisation in the field of 15 credits, by graduation thesis of 9 credits and with optional subjects of 9 credits with these values in accordance with legally required values. Also the number of subjects were semester should not be more than 7 (full-time study is between 6 and 7 subjects and part-time study is between 4 and 6 subjects). The scope of a single study credit is 25-28 hours. The minimum credit volume per subject is 3 credits, as required. During a week of regular studies, the hours allocated have a maximum of 30 hours and a minimum of 10 hours for student independent study meeting the maximum value of 40 hours of student work per week.

According to the SER both study programmes comply with the *Descriptors of On the Approval of the Descriptor of Study Cycles, On the Approval of the Description of the Group of Fields of Engineering Studies, Description of the General Requirements of the Degree-awarding First cycle and Integrated Study Program, with Law on Higher Education and Research of the Republic of Lithuania, Regulations for the Correspondence of Study Programmes of Kaunas University of Applied Engineering Sciences* and the *European Credit Transfer System*.

In Annex 4 the programme outcomes are stated as complying with level 6 of the Lithuanian Qualifications Framework (LQF).

(2) Expert judgement/indicator analysis

The SER includes a statement that the requirements of the Lithuanian Qualification Framework (LQF) for level 6 are met by the programmes of study but it does not provide concrete evidence like a comparison table. A comparison table with the LQF and the Construction Engineering and Road Engineering programmes outcomes with the corresponding competencies would provide an easier judgement about the compliance. Although it is not a legal requirement, it was noted during the site visit virtual meetings and included in the SER that the programmes outcomes did not take into account any European quality label or qualification framework for engineering in academic or professional terms. It is mentioned in the SER that Construction Engineering and Road Engineering programmes outcomes are aligned with the Bologna declaration principles but without providing concrete evidence.

3.1.4. Evaluation of compatibility of aims, learning outcomes, teaching/learning and assessment methods of the field and cycle study programmes

(1) Factual situation

In Annex 4 of the SER, the information about existing programme outcomes, course unit outcomes and respective correspondence is provided in detail. Civil engineering is mentioned several times in the SER and it is understood, given the fact that the Road Engineering programme is not identified explicitly, and that this denomination comprises the two programmes in the analysis. Figure 1.1 presents a graphic illustrating the process to define the connection between the aims and expected learning outcomes of the study programmes (Construction Engineering and Road Engineering) with the learning outcomes of the course units' contents, respective study methods and respective methods of assessment.

Modes of student evaluation include term-time (mid-term) assessment using a cumulative evaluation system approach throughout each semester. Correspondence among programme outcomes with the learning outcomes of course units is presented in Annex 12. Lists of teaching/learning and assessment methods are presented for four course units in Annex 13.

(2) Expert judgement/indicator analysis

Although programme outcomes, course unit outcomes and respective correspondence is provided in detail, the SER and annexes do not present any justification for the alignments between the learning outcomes of course units with respective methods of teaching/learning and of assessment. The SER, annexes and site visit virtual meetings did not clarify how the transitions between course unit (individual subjects) outcomes and respective methods of teaching/learning and of assessment were established by the teachers and by programme management. It is pedagogically advisable to present how to define the teaching/learning and assessment as a function of the intended learning outcomes. These groups are intrinsically connected and the rationale should be presented to facilitate the evaluation of the quality of the educational context.

3.1.5. Evaluation of the totality of the field and cycle study programme subjects/modules, which ensures consistent development of competences of students

(1) Factual situation

According to the SER, the cycle study programmes (Construction Engineering and Road Engineering) have duration of six semesters for full-time students and duration of eight semesters for part-time students. The number of course units vary in each semester and have different weekly workloads. In the full-time study plan the total number of weekly contact hours varies between 22 and 30 hours during the six semesters. In the part-time study plan the number of weekly contact hours varies between 22 and 30 hours during the eight semesters.

The total number of credits in both options is 180 from the ECTS framework. According to the SER the strategy to educate graduates in terms of the programme outcomes is based on a progressive and constructivist approach. The didactic concept of study is based on a problem work approach and reflective learning models. In the SER the essence of the consistent development of the students´ expected competencies is described for each year from first to third year based on theoretical and practical foundations, on knowledge and practical skills, on specialisation and on work related environments. Practical skills are intended to go through three stages dedicated to primary practical skills, to consolidation of theoretical knowledge and to practical skills in a work environment.

(2) Expert judgement/indicator analysis

The SER and annexes provide a detailed explanation about the choices and the respective rationale made in each year about the types, the design, the teaching/learning and the assessment methods of course units. Explanations about the decision process and rationale of decisions based on a pedagogic or educational model for each course unit are not provided in the SER and annexes.

3.1.6. Evaluation of opportunities for students to personalise the structure of field study programmes according to their personal learning objectives and intended learning outcomes

(1) Factual situation

According to the SER students can choose two subjects from two groups of alternatives in a pool of four subjects. Students can choose three optional modules with three credits each (course units) from a pool of twenty-six in the second stage of the programmes. Students in Construction Engineering can also attend postgraduate studies at Kaunas University of Technology following a bilateral institutional protocol. Students with special needs or other learning requirements can benefit from an individual study plan.

Recognition of formal, informal and non-formal learning has an institutional procedure. Students can choose their professional placement for the final practice and for the thesis from a given list or from their own initiative. Students can also choose to participate in the Erasmus+ placement in a foreign higher education institution.

(2) Expert judgement/indicator analysis

Taking into account the possibility that students have to choose some course units, may attend postgraduate studies under a protocol, may choose the final practice and the topic of the thesis it is adequate to consider that each student can adjust their study plans throughout the Construction Engineering and Road Engineering programmes of study. In Construction Engineering students can also participate in study and research work in a subject of interest at Kaunas University of Technology following a dedicated protocol to facilitate access. Potential college students have an established procedure to be accepted to proceed with graduate studies after having formal, informal and non-formal competencies recognised and accredited.

3.1.7. Evaluation of compliance of final theses with the field and cycle requirements

(1) Factual situation

The college has an established procedure for the preparation, defence and evaluation of the final thesis called *Description of the Procedure for Preparation, Defence and Evaluation of Final Theses*. There is also a guide with recommendations for preparation of the final thesis denominated *Methodological Recommendations for The Preparation of Final Thesis*. The four main steps to produce final thesis are also described in the SER and that helps student to plan the work and facilitates supervision. Competencies to be acquired with the final thesis are listed in the SER and range from specialisation to assessment of the main factors of the business environment. Some of the theses are completed in conjunction with placements in companies. According to the SER pre-established topics of theses comprise eighteen topics in Construction Engineering and six in Road Engineering. Students can choose a supervisor,

complete independently their work and the final thesis is appreciated in a public session with a jury that is composed of academics and experts.

(2) Expert judgement/indicator analysis

The framework for thesis elaboration is detailed and was adopted in accordance with the field and cycle requirements of Construction Engineering and Road Engineering study programmes. The relationship between the faculty supervisor and the companies in terms of responsibility and of sharing the supervision of the thesis is not detailed. The pre-assigned topics and titles of thesis reflect a professional trend leading towards application of techniques and of knowledge that reflects the programme outcomes. Although Annex 4 states the expected learning outcomes of the final thesis there is no provision of the verification of compliance between the intended learning outcomes and the thesis outputs.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. Detailed procedures for course unit outcomes definitions like content, teaching techniques and assessment methods.
2. Established procedures to develop and to work on the thesis.
3. The protocol with Kaunas University of Technology to provide optional postgraduate studies in Construction Engineering.
4. The final projects and theses are chosen by each student.
5. Cooperation with construction companies about the Construction Engineering and Road Engineering programmes competencies and the topics of the theses.
6. Surveys of alumni and of employers about the updating of new competencies.
7. Established procedures to recognise formal, informal and non-formal competencies of prospective students.
8. The availability of a large number of optional courses.

(2) Weaknesses:

1. The choice of teaching methods is not justified in relation to the respective intended learning outcomes of course units (subjects).
2. The establishment of a permanent commission with stakeholders (alumni and companies) to observe the need for programme outcomes updates.
3. The lists of Construction Engineering and Road Engineering programme learning outcomes are not presented in accordance with the European Qualification Framework classification in Knowledge, Skills and Attitudes.

3.2. LINKS BETWEEN SCIENCE (ART) AND STUDIES

Links between science (art) and study activities shall be assessed in accordance with the following indicators:

3.2.1. Evaluation of the sufficiency of the science (applied science, art) activities implemented by the HEI for the field of research (art) related to the field of study

(1) Factual situation

One of the main tasks of KTK is to ensure the unity of science and studies, which is realised in the college through close contact with practice, in cooperation with the social partners. The participation of civil engineering study field teachers in research activities is high, both at the college and the national level. The funding earned from applied science activities of the civil engineering study field programmes has grown steadily and in 2020 accounted for 84% of the funding earned by the college.

Each year the teachers plan the academic activities, including applied research. During the evaluation period, the main research activities of teachers of the civil engineering study field programmes were research on innovative construction, efficiency of engineering solutions and innovation, ensuring the principles of sustainable construction in construction and road engineering. The Construction Engineering and Road Engineering students are directly involved in the research activities. Students, with the support of the teachers, are encouraged to prepare presentations for scientific conferences. The results of research activities are integrated into the subjects of the Programmes. The subject content is constantly updated, taking into account the results of applied research and the experience gained.

Teachers of the programmes are members of committees including the journals listed in the international database Index Copernicus, Lithuanian Standards Board, Professional sector of Architecture and Construction of the Qualifications and Vocational Education and Training Development centre of the Republic of Lithuania and the Lithuanian Confederation of Industrialists in the Committee on Education, Science and Innovation.

The teachers have strong cooperation with the social partners in the context of on-demand applied research. The main financial resources for the research activities are the state budget funds, national competitive funding, international programmes, projects and funds. KTK finances the organisation of scientific conferences, where teachers and students of the study field participate.

The college prepares and promotes innovative projects, recruits young researchers, promotes the publication of scientific periodicals, encourages the participation of students in applied research and experimental development work and other necessary activities.

(2) Expert judgement/indicator analysis

According to the current situation in the college, there are links between science (art) and study activities evidenced by:

- the scientific articles published by the teachers;
- the teachers and student activities in national projects;
- the teachers are members of committees including the journals listed in the international database Index Copernicus, Lithuanian Standards Board, Professional sector of Architecture and Construction of the Qualifications and Vocational Education and Training Development Centre of the Republic of Lithuania and the Lithuanian Confederation of Industrialists in the Committee of Education, Science and Innovation;
- participation in the research activities in the themes of civil engineering science.

3.2.2. Evaluation of the link between the content of studies and the latest developments in science, art and technology

(1) Factual situation

In the KTK, the links between the content of studies and the latest developments in science is ensured by the following activities:

- The accreditation of subjects. One of the accreditation criteria is the link between the content of a module and the newest sciences (multiple criteria methods in construction, evaluation of the strength of reinforced concrete slabs operating under the changing water level, the impact of alternating temperature for crack formation in concrete tubes and other innovations);
- Improving the qualifications of teachers. A very important aspect in improving the qualifications of teachers is the preparation of scientific reports and publications;
- Organisation of integrated lectures where the social partners and foreign teachers are participating in lectures organised in the social partner workplace. The main task of integrated lectures is to expand the content of the subject in which the lecture is integrated;
- Organisation of student practice. Practice placements in the civil engineering study field account for more than one third of the total volume of studies, so students develop practical skills directly in the latest technological environment.

(2) Expert judgement/indicator analysis

The college has links between the content of studies and the latest developments in civil engineering science. The main indicators are:

- The college is interested in innovative themes for civil engineering science and teachers are publishing scientific papers. Participation of teachers in the innovative themes for civil engineering is increasing their qualifications;
- The newest themes for civil engineering science are included in the teaching materials.

3.2.3. Evaluation of conditions for students to get involved in scientific (applied science, art) activities consistent with their study cycle

(1) Factual situation

One of the main tasks of KTK is to ensure the unity between research and studies. According to the SER, the students are directly involved in research. The students together with the teachers of the civil engineering study field programmes prepare scientific articles, participate in applied research, participate in conferences, in consulting activities, in experimental development works, in the regional development projects and others events.

Students can demonstrate their potential by presenting innovative ideas or contributing to the development of advanced technology. Between 2018 and 2020, students prepared 11 final theses based on commissions from companies. This represents about 4.5% of all students in the field. From 2017, the collection of the best student research work is published in *Best Student Research Papers: Project Solutions*.

The students and teachers of the civil engineering study programmes collaborate on scientific research. During the evaluation period 18 students gave presentations at various national and international conferences and published articles in the journal *Engineering and Educational Technologies.*

(2) Expert judgement/indicator analysis

Students are encouraged to be involved in scientific activities for example:

- preparing papers for publication;
- participation in specialised events;
- cooperation between teachers and students on scientific research projects.

Strengths and weaknesses of this evaluation area:

(1)Strengths:

1. There are scientific articles published by the teachers and students.
2. Participation in research activities in novel civil engineering themes.
3. The newest themes for civil engineering science are included in the teaching materials.
4. The teachers, together with the students, prepare papers and publications.
5. The teachers and students are cooperating on scientific research projects.

(2) Weaknesses:

1. The number of international scientific articles published by teachers and students is low.
2. The number of students participating at the international level is low (including Erasmus).

3.3. STUDENT ADMISSION AND SUPPORT

Student admission and support shall be evaluated according to the following indicators:

3.3.1. Evaluation of the suitability and publicity of student selection and admission criteria and process

(1) Factual situation

Admission to programmes of study at KTK is carried out in accordance with the Law on Higher Education and Research of the Republic of Lithuania, orders of the Minister of Education, Science and Sport and the rules for admission of Kaunas technikos kolegija. Students are admitted to either state-funded, non- state funded or self-funded places on programmes and need to achieve a minimum admission score of 4.3. There is no age limit for applicants.

The admission score is calculated on the basis of the principles provided for in the Order of the Minister of Education, Science and Sport of the Republic of Lithuania. Information about the requirements for admission to the study programmes in the civil engineering field is published on the college's website presented orally and in a printed form on social media and at the study fairs organised on a national basis and in secondary schools.

During the last three years, 1566 persons applied to study programmes in the field of civil engineering, of which 443 identified these programmes as a first priority. The number of students who signed agreements for the civil engineering study field programmes in 2018 was 96 reducing to 77 in 2019 and 69 in 2020. The Construction Engineering programme attracted over 75% of these students. The number of students admitted to the Lithuanian civil engineering study programmes has decreased by almost 40% in the last three years.

The minimum scores of students admitted to the Road Engineering study programme during the first stage of admission have increased steadily and significantly. In the review period from 2018 to 2020, the Construction Engineering programme was one of the most popular programme choices of the college. This is evidenced by the number of applicants and the high admission scores.

(2) Expert judgement/indicator analysis

Admission to first year of the Construction Engineering and Road Engineering programmes is controlled by the regulations set out in the national Lithuanian Ministry of Education, Sciences and Sport and by criteria set by the college. Admission to later years of the programmes is based on recognition of prior learning. The number of students admitted remains strong for the Construction Engineering programme but is reducing in line with national norms for engineering and construction programmes in Lithuania. The number of students admitted to the Road Engineering programme has reduced over the review period and the panel notes that it is one of the few remaining programmes in Lithuania producing specialists in road engineering.

The employers confirmed that there is a serious shortage of graduates in Lithuania with Construction Engineering and Road Engineering specialist knowledge and skills. The panel notes that the social partners are assisting the programme teams with marketing the programme to second level students and recommends that this be further encouraged.

3.3.2. Evaluation of the procedure of recognition of foreign qualifications, partial studies and prior non-formal and informal learning and its application

(1) Factual situation

A person studying non-formal education programmes is accepted as an unclassified student.

The procedure for assessment and recognition of non-formal and informal learning competences at the college establishes requirements and procedures for the assessment and recognition of personal competencies acquired in the non-formal adult education system. This procedure has been prepared in accordance with the Law on Education to the order of the Minister of Education, Science and Sport. The process of assessment of competences acquired through non-formal and informal learning involves informing applicants, consultation, evaluation and decision-making.

The Description of the Procedure for the Recognition of Competences Acquired through Formal Education as part of the study programme establishes the procedure for formalisation of competencies acquired by formal education and their recognition as part of the study programme at the college. The procedure applies to persons who have acquired or are recognised as having acquired the equivalent of at least level 4 qualifications in Lithuanian or foreign countries.

In the last 3 years, three student requests for recognition of competencies have been submitted in the civil engineering study field. Provided that students have studied according to an agreed curriculum, credits from periods of study are recognised for students coming from other higher education institutions, after partial studies Via University College in Denmark and upon returning from Erasmus+ studies. Curators of study programmes in the study field submit an application for recognition of credits. Shortfalls of credits from an exchange must be made up for upon return.

(2) Expert judgement/indicator analysis

The Study Programme Committee evaluates the recognition of formal and non-formal education and experience of prospective students according to the college's policies and procedures. From discussions with staff, the evaluation panel determined that the college's procedures for the recognition of student's prior learning are implemented.

3.3.3. Evaluation of conditions for ensuring academic mobility of students.

(1) Factual situation

KTK participates in student and staff mobility under the Erasmus+ exchange programme. The Institutional Coordinator of International Relations and teachers in the civil engineering study field responsible for international relations support the Erasmus+ programme implementation. The International Relations Coordinator provides all information and organisational assistance to study programme curators and students participating or intending to participate in the Erasmus+ project. All information about the project is provided on the college's webpage and sent to students by email. The Erasmus+ programme at the college is open to students in full-time and part-time studies after the first semester. Applications for studies under the Erasmus+ exchange programme are submitted twice a year.

The Construction Engineering programme has a mobility and double degree agreement with the VIA University College in Denmark. In the last 3 years, three Lithuanian and one Danish student have obtained a double degree from KTK and Via University College. Since 2020 together with five foreign higher education institutions, the college participates in the Erasmus+ KA2 project, which aims to develop and present a new international interdisciplinary module and training programme during which students with teachers will travel to foreign partner countries for training.

Every year, students from abroad come to programmes in the civil engineering study field for a period of mobility and they are offered subjects available in English. Foreign students have been provided with the opportunity to study in small groups, where they are taught in English. In the last three years, two students from the Cagliari Polytechnic Institute in Italy have come to the college under the Erasmus+ programme. Since 2018, two students from Ukraine have studied in the Construction Engineering programme.

The mobility of outgoing students is higher than that of arriving students. Students normally leave to develop practical skills in foreign companies. In the last three years, 41 students of the civil engineering study field have gone to foreign countries. There were 3 students who chose higher education institutions in Spain, the Czech Republic and Portugal for Erasmus+ studies. Currently, one Construction Engineering student is studying for a double degree in Denmark. In 2018, one student of the Road Engineering programme went to the Czech Republic.

(2) Expert judgement/indicator analysis

Opportunities to participate in academic mobility for a semester or for a practical placement element of the programme is available to students where the credits and work experience achieved in the foreign higher education institution is recognised when students return to the college. However, shortfall from an exchange must be made up for on return.

At the meeting with students, the evaluation panel confirmed that students carefully select the foreign programme so that there is no shortfall of credits. KTK advertises the Erasmus+ exchange programme and supports students with a dedicated Institutional Coordinator of International Relations.

Seventeen percent of the civil engineering study field students have opted to avail of the Erasmus+ exchange programme. At the meeting with the students, they indicated that they have received sufficient information on the opportunities to study abroad but many have work and family commitments which makes travel difficult. The evaluation panel recommends that there should be further encouragement and support for students to incentivise them to participate in the Erasmus+ exchange programme.

3.3.4. Assessment of the suitability, adequacy and effectiveness of the academic, financial, social, psychological and personal support provided to the students of the field

(1) Factual situation

The college provides social, financial and academic support to students. Social assistance includes loans provided and administered by the State Studies Foundation for the payment of tuition fees and living expenses and disability benefits granted by the Department of Persons with Disabilities and social grants. There are additional ways to receive financial support. Students studying at the college have the opportunity to apply for various scholarships including incentive and nominal scholarships, one-off social grants, company scholarships, scholarships for active engagement, bonuses, state scholarships for periods of study abroad under international agreements, mobility scholarships and foreigner scholarships.

In 2020, students of study programmes in the civil engineering study field were awarded six nominal scholarships, two scholarships for practice and 51 incentive scholarships. The social partners of the college annually award one-off nominal scholarships to the best students of the Road Engineering study programme. In 2020 a local employer provided incentives to students who showed excellent performance during professional practice on the company's sites. Companies also cover the tuition fees of their employees studying in self-funded places.

Academic support allows students to retake an exam or resubmit a piece of coursework after an exam period. Students are also given three weeks to settle academic debts. Working students are provided with conditions to study according to individual study schedules.

The college's students may be provided with a dormitory. Students have meetings with professionals in the construction field from the first year. Second-and third-year students have meetings with employers and go to trade shows. Every year students go to the annual international construction trade show *RESTA* in Vilnius, which is relevant for students of both study programmes and a trade show in Kaunas called *Home World*. The college organises *Career Days* each year, during which students learn about the activities of construction and road engineering companies.

(2) Expert judgement/indicator analysis

The number of students who receive scholarships and other financial support from the Lithuanian state and college is high. Meetings with students confirmed that the range of financial and academic supports for students of the programmes is adequate. The evaluation panel is impressed with the range of academic and financial supports available for students.

3.3.5 Evaluation of the sufficiency of study information and student counselling

(1) Factual situation

Introductory lectures are given to students at the beginning of their first-year studies where students meet the administration and employees of the departments of the college, the curator of the programme who helps first year students to get acquainted with the documents regulating the activities of the college, academic requirements and career opportunities. First-year students are assigned a curator, each group is given a mentor (2nd or 3rd year student) and a teacher as an academic counsellor. They take care of students' social and academic adaptation, attendance, communicate with students, help them to get to know the college and solve problems should they arise.

Students are given the opportunity to observe the work taking place in construction companies and to perform tasks formulated by teachers. Led by teachers, students are encouraged to participate in various construction-related research events and national professional competitions.

Each teacher provides counselling to students. Students receive consultations via college email or intranet. The Academic Information System provides grades for assessment. Feedback is provided through Moodle since 2020, via ZOOM and Microsoft Teams. In order to make sure that the advice provided to students is sufficient, halfway through the first semester meetings of focus groups are organised where students express their opinion and share their observations.

(2) Expert judgement/indicator analysis

Students are provided with appropriate programme information by the college, faculty and staff commencing with induction in the first year. Face-to-face meetings and electronic information tools are utilised to provide students with up to date information at appropriate times. Discussions with teachers and students provided confirmation to the evaluation panel that the study information provided is sufficient.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. Academic, financial, social, personal and other supports for students are available and communicated to students.
2. There are clear procedures for recognising prior learning outcomes and they are implemented for the civil engineering study field programmes.
3. The criteria and procedures to admit students to the civil engineering study field programmes are clearly defined and implemented.
4. The information provided to students about their studies is timely, systematic and relevant.

(2) Weaknesses:

1. The evaluation panel recommends that there should be further encouragement and support for students to incentivise them to participate in the Erasmus + exchange programme.

3.4. TEACHING AND LEARNING, STUDENT PERFORMANCE AND GRADUATE EMPLOYMENT

Studying, student performance and graduate employment shall be evaluated according to the following indicators:

3.4.1. Evaluation of the teaching and learning process that enables to take into account the needs of the students and enable them to achieve the intended learning outcomes

(1) Factual situation

The college has full-time and part-time programmes in the civil engineering study field. Study methods include classroom work, independent work and practice. The study process uses traditional (lectures, laboratory and practical work, problem solving, discussion, practical tasks, case studies, information search, consultations and other methods) and non-traditional (interactive lecture, working in groups and teams, individual work, analysis or review of literature, working with simulation models, analysis of solution to problems, reflection on activities, application of specialist software, preparation of reports, presentations, lectures of guest teachers and educational visits).

The assessment methods include exams, tests, individual or team project reports, computer-aided testing, laboratory work reports and their defense, problem-solving tasks, coursework and its defense as well as the practical work report and its defense. The college has a ten-point cumulative grading system (mid-term tests (50% to 80% of the total final score) and an examination or individual work (project)). The methods of student teaching and achievement assessment are presented in the description of each subject (module) placed in the college's *Academic Information System (AIS)* and on the *Moodle* environment.

The organisation and assessment of students' independent work is described in the *Regulations* of *Studies (2017*). The description of each subject indicates the hours devoted to independent work (at least 30%), the forms of independent work and the system of assessment of independent work. Students of full-time and part-time programmes in the civil engineering study field use the resources of the library to perform independent work.

Students have the opportunity to freely download and install the latest computer aided design (CAD) software on personal computers. In 2019, new premises were opened in the college for students to work independently. From March 2020, with the beginning of the COVID-19 pandemic, student education and training were moved to distance learning. Video conferencing platforms have been launched: ZOOM, Microsoft TEAMS and the whole teaching/learning methodological material are constantly updated and placed in the virtual learning environment Moodle.

Graduates of the civil engineering study field programmes at the college have the opportunity to continue their Master's studies at Lithuanian and foreign universities (KTU, VGTU and VMU Academy of Agriculture).

(2) Expert judgement/indicator analysis

The complexity of traditional and non-traditional teaching/learning methods used in the study process helps students to develop the ability to communicate, cooperate, think critically, solve problems, and learn independently. The cumulative achievement assessment system applied in the college encourages students to be active participants in the study process and to work evenly throughout the semester, as well as to fully and objectively assess all student achievements during their studies. During the COVID-19 pandemic, distance learning processes in the civil engineering study programmes did not cause any problems, as the video conferencing platforms (ZOOM, Microsoft TEAMS) and the virtual learning environment Moodle were used, thus ensuring high programme quality. The procedures for organising students' independent work and assessing their achievements are set out in the *Regulations of Studies (2017)*. According to evaluation panel, graduates of the civil engineering field study programmes have excellent opportunities to continue their studies at other higher education institutions.

3.4.2. Evaluation of conditions ensuring access to study for socially vulnerable groups and students with special needs

(1) Factual situation

Students from socially vulnerable groups and students with special needs are provided with conditions to study according to individual study schedules *("Procedure for Providing Opportunities to Study on an Individual Schedule and According to the Debt Course Repetition Program", 2007*). Students can receive loans provided and administered by the State Study Fund to pay tuition fees, to cover living expense, they receive social scholarships and one-time benefits (*Kaunas Technical College Scholarship Regulations, 2011*).

To ensure social adaptation and integration into the college community, first-year students are provided with support through a variety of activities including a mentoring programme, one-on-one interviews, assistance in solving personal student adaptation issues, and tutoring, both in the KTK and remotely. During the last three years, students with special needs have not studied the civil engineering study field programmes.

(2) Expert judgement/indicator analysis

The study process in the college is adapted to socially vulnerable groups of students and students with special needs by conducting consultations on the issues of accessibility of the study programmes, individualising the study process and integrating disabled students into the life of the academic community.

3.4.3. Evaluation of the systematic nature of the monitoring of student study progress and feedback to students to promote self-assessment and subsequent planning of study progress

(1) Factual situation

Monitoring of civil engineering study field students' progress is implemented in accordance with the regulations established by the Study Quality Monitoring Council of Kaunas technikos kolegija and carried out by the Study Programme Committees.

Students have the opportunity to independently monitor their study progress. Academic progress indicators for students are recorded (the summary of term-time assessment at week 8-9 of each semester and at the end of the exam period for full-time students and after each study period for part-time students). The statistical reports on student dropouts, excellence indicators and academic debts are presented in the annual reports of KTK and are analysed at teacher meetings and other relevant meetings.

Monitoring of the quality of studies and the organisation of feedback is recorded in the surveys of the quality of the study programme carried out at the college. Based on the results of the surveys, positive aspects and areas of improvement are identified and recommendations are made for programme or process improvements.

The feedback is provided to students on a regular basis when teachers engage with students during workshops, laboratory work, seminars, consultations and individual consultations. Student individual progress planning and assessment are supported by the *College Mentoring Programme*. The study curator assists students to ensure close feedback to the study programme committees. The role of the mentor is to help the student from his/her first days at the college whereas the functions of an academic counsellor include encouraging students to set goals and high standards for their individual academic achievement.

(2) Expert judgement/indicator analysis

The KTK carries out the monitoring of student's progress according to the regulations established by the Study Quality Monitoring Council. It can be concluded that the monitoring is continuous and the gathered data is analysed at college meetings. Student feedback is

provided in various ways (individual consultation, seminars, laboratory works and in other ways).

3.4.4. Evaluation of employability of graduates and graduate career tracking in the study field.

(1) Factual situation

The data on the employment of graduates is collected as follows:

- using the questionnaire method;
- using the method of telephone interviews and written surveys (for companies).

The average employment rate of students in the civil engineering field study programmes is 85%, while the average employment rate in non-degree-related positions is about 18%. The questionnaires about the readiness of graduates for independent work were conducted with employers, social partners and others. The longitudinal quality study *Student-oriented study culture* showed that the construction industry representatives are satisfied with the level of knowledge, practical abilities and competencies of students.

(2) Expert judgement/indicator analysis

The data about the employment of graduates is collected using different methods (surveys, interviews). From the information provided in the SER and obtained during the site visit virtual meetings, it can be determined that the level of civil engineering study field graduate employment is high. The results of surveys show that employers are satisfied with the level of competencies acquired by graduates during their programme of study.

3.4.5. Evaluation of the implementation of policies to ensure academic integrity, tolerance and non-discrimination

(1) Factual situation

The college has a *Code of Academic Ethics* which describes the principles and measures to ensure academic integrity, tolerance and non-discrimination and includes the penalties for both teachers and students for non-compliance with the code. The students are introduced to the Code of Academic Ethics during their first year. The Ethics Committee oversees the implementation of the Code of Academic Ethics.

(2) Expert judgement/indicator analysis

Ensuring academic integrity, tolerance and non-discrimination is realised according to the college's *Code of Academic Ethics*.

3.4.6. Evaluation of the effectiveness of the application of procedures for the submission and examination of appeals and complaints regarding the study process within the field studies

(1) Factual situation

The college has the *Description of the Procedure for the Examination of Appeals Regarding the Study Process, Evaluation of Student Knowledge and Procedural Violations*. It provides procedures for lodging an appeal, forming an appeal commission and examining the appeal. During the analysed period, there have been no appeals or complaints about violations of the study process procedures in the civil engineering study field programmes.

(2) Expert judgement/indicator analysis

The students have the right to appeal if they are unsure about the implementation of the assessment procedure or if they wish to complain about the study process as appropriate college policies and procedures are in place.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. The implementation of policies to ensure academic integrity, tolerance and non-discrimination is in place.
2. The application of procedures for the submission and examination of appeals and complaints regarding the study process within the civil engineering study field is effective.
3. The employability of graduates and graduate career monitoring for the civil engineering study field programmes is appropriate.
4. There is a systematic monitoring of student's study progress and feedback to students supported by different college procedures.
5. The teaching and learning process is adequately organised and delivered enabling students to achieve the intended learning outcomes while at the same time taking into account their needs.

(2) Weaknesses:

None found.

3.5. TEACHING STAFF

Study field teaching staff shall be evaluated in accordance with the following indicators:

3.5.1. Evaluation of the adequacy of the number, qualification and competence (scientific, didactic, professional) of teaching staff within a field study programme(s) at the HEI in order to achieve the learning outcomes

(1) Factual situation

In KTK, the subjects of the civil engineering study field programmes are taught by twenty-one teachers working the number of hours equivalent to at least a half of a full-time position and having worked for at least three years in the college. The fundamental subjects of the Construction Engineering and Road Engineering programmes are taught by sixteen teachers. General and optional subjects are taught by five teachers.

There are 316 students currently studying the Construction Engineering and Road Engineering programmes. The current ratio of the number of teachers to the number of students studying civil engineering study field programmes is 16.

Fifty-six percent of the civil engineering study field programme teachers work hours equivalent to at least a half of a full-time position and have at least three years of experience. There are teachers from construction and road building enterprises who teach subjects of the Programmes. Over the last 3 years, the number of practitioner-teachers has increased by 8%. Teachers must be certified every five years. Eight of the programme's teachers have a Master's degree in the field of civil engineering or a qualification equivalent to it. Six teachers have a doctorate.

The teachers have a high level of English, German, Russian and French. Students coming under the double degree agreement with VIA University College in Denmark as well as students coming from abroad under the Erasmus+ programme are taught in English. Students from Ukraine are taught in Russian.

(2) Expert judgement/indicator analysis

The teaching staff have appropriate qualifications and competencies. The SER has highlighted the following in relation to the teaching staff on the programmes:

- the number of teaching staff is sufficient to deliver the programmes;
- the teaching staff publish scientific articles;
- the teaching staff have the appropriate scientific and teaching background;
- the teaching staff are active in competitions and events.

3.5.2. Evaluation of conditions for ensuring teaching staffs' academic mobility (not applicable to studies carried out by HEIs operating under the conditions of exile)

(1) Factual situation

The construction engineering and road engineering teachers participate in the project *Mobility of persons for learning purposes*. Through this project, the teachers are developing pedagogical and specialist qualifications and improving their foreign language skills. The teachers are provided with assistance in preparing teaching materials, lectures in a foreign language, preparing for visits to foreign higher education institutions or preparing to teach foreign students coming under the Erasmus + mobility programme.

During the evaluation period, 2 teachers of the civil engineering study field programmes took advantage of this opportunity where the number of teachers who have gone to foreign educational institutions to give lectures or participate in training in the civil engineering area has increased. The mobility of teachers increased from 19% in 2017 to 24% in 2018, and then to 73% in 2019.

KTK has close links with higher education institutions in Latvia, Denmark, Poland, Turkey, Hungary, the Czech Republic and Portugal.

The number of inbound teachers decreased during the evaluation period. Four teaching staff from foreign universities came in 2017, three in 2018 and one in 2019. Despite the difficult situation caused by the COVID-19 pandemic, the mobility of teachers also took place in 2020. There were four inbound and four outbound teachers during this period.

(2) Expert judgement/indicator analysis

Academic mobility of the teaching staff is improving. The SER has highlighted the following in relation to the mobility of the teaching staff on the programme:

- The teachers are encouraged to improve their competences;
- The teachers participate in the Erasmus + mobility programme;
- The foreign teachers are involved in the delivery of the programme.

3.5.3. Evaluation of the conditions to improve the competences of the teaching staff

(1) Factual situation

The college provides opportunities for teachers to develop their qualifications by organising courses, conferences and seminars. A significant part of the seminars and training for teachers in the civil engineering study field is organised by businesses and the social partners. The college encourages teachers to improve their teaching qualifications in pedagogical studies in Vytautas Magnus University.

KTK provides flexibility for teachers to create a schedule compatible with their wish to improve their qualifications. The college gives an opportunity for each lecturer to learn, upgrade their qualifications and improve professionally. The professional development is paid from the state budget for professional development, college funds and other sources. Every teacher of the college has the right to improve his/her qualifications, freely choosing the methods, forms and topics of professional development.

Teachers of the Programmes improve their qualifications by participating in short-term training, courses, seminars, conferences, traineeships, Erasmus+ and other international programmes, transferring good practice of colleagues and studying for a PhD. The faculty, taking into account the annual and strategic goals of the college, envisages priority fields of professional development each year. The minimum volumes of lecturer's professional development have been determined (traineeship – 1 per term, 16 academic hours per study year for the development of didactic competencies and at least 4 academic hours per study year for the deepening of subject competencies).

(2) Expert judgement/indicator analysis

Teachers of the Programmes improve their competencies on an on-going basis. The SER has highlighted the following in relation to the teachers improving their competencies:

- The teachers together with the Head of Department plans the development of their competencies each year;
- The college pays expenses to teachers to improve their competencies;
- It is possible to get financial support from the state budget, the Erasmus+ programme and other funds raised by the college or from other sources;
- The college recommends that the teachers improve their practical competencies;
- The teachers develop their practical competencies in the local region companies.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. The teaching staff publish scientific articles as highlighted in section 3.2 of this report.
2. The teachers are encouraged to improve their competencies.
3. The teachers participate in the Erasmus + mobility programme.
4. The teachers together with the Head of Department plan the development of their competencies each year.
5. The teachers develop their practical competencies in the local region companies.

(2) Weaknesses:

1. As evidenced in section 3.2 of this report, the teaching staff are not actively involved in international associations.
2. The teachers are not very active in international conferences outside of Lithuania as indicated by most of their scientific articles being published in Lithuania.

3.6. LEARNING FACILITIES AND RESOURSES

Study field learning facilities and resources should be evaluated according to the following criteria:

3.6.1. Evaluation of the suitability and adequacy of the physical, informational and financial resources of the field studies to ensure an effective learning process

(1) Factual situation

Delivery of the civil engineering study field programmes takes place in the classrooms and laboratories in the college's main building and teaching building, at the multidisciplinary practical training center *KTK Engineering Division* and lecture halls located in the college's dormitory.

The SER indicates that the required teaching spaces are available: eleven auditoriums with 629 workplaces, nine laboratories with 212 workplaces, ten specialised offices with 204 workplaces, a research department with 9 workplaces, students' individual work area with 30 places and the student leisure area with 30 places. Auditoriums and laboratories are equipped with modern computer software (MS OFFICE, MS VISIO, MS PROJECT - 100 licenses, Autodesk (Autocad 2020, Revit, Civil 3D, Infawroks, Nawisworks) - 60 licenses, Dasault Solidworks 2020 - 60 licenses, Sistela 2015 - 45 licenses, Columbus 2010 - 20 licenses, NRGPro - 15 licenses), a detailed list of which is provided in Appendix 9 of the SER. The premises meet the requirements of occupational safety and hygiene standards.

During the site visit virtual meetings, the evaluation panel was informed that with the onset of the COVID-19 pandemic, student groups were divided into even smaller subgroups to work in laboratories and specialised offices to meet the requirements of the COVID-19 pandemic and provide adequate space per person on the premises. The submitted SER states that in order to ensure the quality of the study programmes for students with special needs, the college has purchased a special lifting device that ensures access to all floors of the building, as well as SAN facilities for the disabled. It was mentioned during the site visit virtual meeting that the auditoriums for students with special needs are equipped with monitors closer to the place, ensuring better visibility. The college dormitory is adapted for students with reduced mobility.

Internships at the college are organised in accordance with the *Description of General Requirements for Internships* approved by the Academic Council of the college. Students on civil engineering study field programmes perform professional, technological, industrial and final internships in construction and road construction companies (91 companies, the list is provided in Annex 10 of the SER description). Cooperation agreements have been concluded with these companies. A list of companies is provided in the SER who cooperate with the college to apply advanced technologies, where innovative materials are used and the students acquire practical skills and professional competencies. Under the ERASMUS Mobility Promotion Programme, college students have the opportunity to participate in the ERASMUS + practice programme to do an internship in a selected country and company.

The college's SER states that there is a library and reading room to meet the needs of the community. All information about the publications in the library and their location can be found by visiting the college's *Virtual Library*. Students can search for literature sources not only in the virtual library but also in the resources of *the Lithuanian Academic Library eLABa.*

Funding allocated by the college to the library to purchase materials for the civil engineering study field programmes during the analysed period is as follows: in 2017-223 units, in 2018-431 units, in 2019-222 units and in 2020-126 units. A list of study literature (314 sources) in the college library and reading room is provided in Annex 11 of the SER. The library's funds are updated annually. Teachers have the opportunity to submit applications for new literature during the academic year. Databases subscribed to the college library for the study programmes are as follows: *EBSCO Publishing, Emerald, Taylor & Francis, and electronic publications of VGTU Publishing House*. Library readers have access to the standards of the Lithuanian Department of Standardisation. The library accumulates a series of publications (production standards).

All information about subscribed and open access books is available on the college's website. In 2018-2019, the library subscribed to 44 magazines and newspapers in Lithuanian, English and Russian. The following publications are currently subscribed to the study programmes in the field of Civil Engineering: *Engineering Structures and Technologies, Journal of Architecture and Urbanism, Journal of Civil Engineering and Management, Lithuanian Roads, My House, House and I, Construction and Architecture, Construction News, Statyk, Structum.*

Civil Engineering study field teachers have presented their subject learning materials in the virtual *Moodle* system. Students have unrestricted access to this material by logging in from both college and home computers.

(2) Expert judgement/indicator analysis

The assessment was based on the college's Self-Evaluation Report for 2021 and information received during the site visit virtual meeting that the premises (*auditoriums, laboratories, specialised rooms, individual work and leisure areas*) have appropriate equipment and are sufficient for the quality implementation of study programmes (the number of students in the group varies from 20 to 35), but lacks equipment and laboratories associated with renewable energy resources.

In the SER and during the virtual meetings, the experts were not provided with detailed information on the special equipment and tools adapted for students with visual, hearing and motor impairments. For this reason, the evaluation team considers that the amount of facilities and equipment available to students with special needs is unfortunately only satisfactory.

Due to the close cooperation with social partners and business representatives, the college has created suitable conditions for civil engineering study field students to carry out professional practice (91 companies), therefore it is very important that the established contact and cooperation agreements with various companies in the Kaunas region and abroad remain valid.

The methodological resources (textbooks, books, periodicals, databases) available to the college library for the implementation of the civil engineering study programmes are sufficient, appropriate and available in various forms. The library's funds are updated annually with methodological resources. The learning materials required to study the programmes are available remotely in the virtual *Moodle* environment and are available at any time.

3.6.2. Evaluation of the planning and upgrading of resources needed to carry out the field studies

(1) Factual situation

In the description of the SER and during the site visit virtual meetings, the evaluation panel was informed that the sources of funding for updating the resources required for the study are funds financed by Lithuanian and European Structural Funds, funds allocated by the Government of the Republic of Lithuania, the college's own funds and social partners' funds.

The process of planning and updating the resources required for the study programmes is carried out annually. In the annual plan, about 5% of the available budget is allocated to the development of the college's laboratories. The college's active participation in project activities enables it to plan, acquire and update the tools required for the study of civil engineering study field programmes. The social partners also make a significant contribution to the process of planning and updating the resources needed to run the programmes by helping them to acquire the necessary measuring, control, computer and other equipment.

(2) Expert judgement/indicator analysis

After evaluating the information provided in the SER and received during the site visit virtual meeting on the planning and updating of resources required for the study programmes, it can be concluded that the needs of teachers and students are assessed when planning resources for the improvement of the study process and the college is prepare to assist student to develop civil engineering competencies.

The recommendations made by the evaluation panel in the previous evaluation have been taken into account by the college and actions have been taken to implement them:

1. Renovation of internal and external premises is necessary, software and computer equipment need to be updated, in particular laboratory equipment (laboratories, equipment and tools are intended for the Road Engineering programme, apart from several fundamental testing equipment for Construction Engineering). There is no functioning canteen or café on the premises, which would be a social space and part of the academic environment, so experts recommend including them for the convenience of students, teachers, administration, social partners. *Implemented*.

2. The library and reading room have minimal facilities to ensure students' activities outside the classrooms. Therefore, students and alumni mentioned that the reading room area should be enlarged, library opening time increased, larger spaces should be allocated to students. *Implemented.*

3. There is a lack of social spaces and services. The college should improve the academic environment, provide the main building with a café or canteen for students and staff. *Implemented.*

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. Renewed laboratories, computerised workplaces, a sufficient amount of hardware and software to meet the needs of students and teachers are used for the implementation of civil engineering study field programmes, and the technical and hygienic condition of the premises is suitable.
2. Great attention is paid to the digitalisation of study programmes in the field of civil engineering.
3. Teaching materials (textbooks, books, periodicals, databases) in the library are appropriate, sufficient and available in various forms.
4. The teaching materials for the programmes (lecture notes, practical instructions for practical, laboratory, independent work, coursework and final theses) are easily accessible to students remotely - in the virtual *Moodle* environment.
5. In cooperation with the social partners in Lithuania and abroad, the college has the opportunity and conditions to organise internships and use the material base provided by the social partners during the internship.

(2) Weaknesses:

1. The college should provide enhanced conditions for students with special needs.
2. In the study process, insufficient attention is paid to the acquisition of equipment for renewable energy sources and the establishment of a renewable energy laboratory.

3.7. STUDY QUALITY MANAGEMENT AND PUBLIC INFORMATION

Study quality management and publicity shall be evaluated according to the following indicators:

3.7.1. Evaluation of the effectiveness of the internal quality assurance system of the studies

(1) Factual situation

Internal quality assurance of the civil engineering study field programmes is established under the principles of the *Quality Manual* (Approved by the Order of the Director of Kaunas University of Applied Engineering Sciences, No V1-55 of 31 March 2020).

The study programme committee is responsible for the internal evaluation and quality of the implementation of the study programme including the certification of subjects, making changes to the programme, and other activities. The composition of the study programme committee is five teachers, one student and one representative of social partner enterprises.

The study programmes are updated on the basis of opinions gained from the surveys of the social partners and students, results of focus group discussions and assessing the changing market needs. For example, students claimed that there is a lack of digital textbooks in the Lithuanian language, and there could be more digital books in pdf format. The college considered the situation and, a significant increase in the number of Lithuanian e-books has been subscribed for 2021. Another example can be that students lack information on how to use the e-library, access databases, etc. That is why information about e-resources and their access is regularly provided on the library's website, in the college Moodle course "Academic Literacy", in YouTube tutorial videos, in social networking sites Facebook and Instagram, and emails sent to all college students. The library provides a wide range of interactive and traditional training on finding and using information sources, and students receive group and individual guidance.

In addition, teachers with the latest practical knowledge and experience in construction and road engineering suggest updates to the programmes. Financial support from businesses and social partners helps to ensure effective improvements to the study programmes.

(2) Expert judgement/indicator analysis

Based on the information provided during the site visit virtual meetings and in the SER, it can be stated that the college is taking sufficient steps to provide quality education and improve the civil engineering study field programmes. The composition of the civil engineering study programme committee is very good as well. In addition, the college's quality management system is established under the principles of the Quality Manual. Surveys are used for students and employers to allow changes to the study processes to be made for the study field programmes.

3.7.2. Evaluation of the effectiveness of the involvement of stakeholders (students and other stakeholders) in internal quality assurance

(1) Factual situation

The inclusion of social stakeholders in the processes of implementation, evaluation and improvement of study programmes is an essential factor in ensuring the quality of programmes of study. Relations with the social partners are actively maintained and are formalised through cooperation agreements.

The college's social partners are:

- Employers;
- Secondary schools;
- Academic community;
- And others.

Periodic surveys of employers' opinions about the competencies required in the labour market, the sufficiency of students' knowledge, and other key priorities are conducted. Also, they are invited to participate in the defense of the final theses. The social partners organise seminars, give integrated lectures, organise visits and external training to construction engineering and road construction companies.

Whereas students are involved by participating in regular surveys about the quality of administration of the study programme, organisation of the study process and other relevant matters. The results of the surveys are regularly presented to students and they are informed about changes that have been made based on their suggestions.

(2) Expert judgement/indicator analysis

Based on the information obtained during the site visit virtual meetings and the SER, the involvement of stakeholders in the internal programme quality assurance is very good. The college has a variety of social partners that take part in the surveys and other activities to ensure the quality of the programmes of study. All the results of the surveys and how they were utilised are available at the college website.

3.7.3. Evaluation of the collection, use and publication of information on studies, their evaluation and improvement processes and outcomes

(1) Factual situation

The college collects information about the study programmes, their assessment and improvement processes and systematises information that helps to manage the processes of implementation of the study programmes and the study process effectively.

Heads of Department and faculty offices are responsible for collecting and analysing relevant information. Various forms of information storage are used such as reports, protocols and information databases. The collection of information is carried out using Moodle, the AIS system, and other methods. The protection of the collected data is carried out in accordance with the *Description of Processing of Personal Data at Kaunas University of Applied Engineering Sciences.*

The specific information about the requirements for admission and the qualification acquired are made public on the college's website: http://www.ktk.lt/home-en/. All the results about the college's plans, their implementation and annual quantitative results are also available to the public: http://www.ktk.lt/apie-ktk/dokumentai/ataskaitos/.

Summarising the information gathered about the evaluation of the students', graduates' and social partners' opinions have led to adjustments to the civil engineering study field programme plans. For example, the outcomes indicated that more attention should be paid to practice work. The college changed the study plans, content of internships, etc.

(2) Expert judgement/indicator analysis

The collection, use and publication of information about the programmes of study and evaluation and improvement processes are considered very good. All the needed information is made public on the college's website and is carried out in accordance with the *Description of Processing of Personal Data*.

3.7.4. Evaluation of the opinion of the field students (collected in the ways and by the means chosen by the SKVC or the HEI) about the quality of the studies at the HEI

(1) Factual situation

The anonymous student surveys are organised regularly and are based on the *Procedure for the Organization of Surveys and Feedback at Kaunas University of Applied Engineering Sciences*. The main purpose of the surveys is to reveal the strengths of the study process and the shortcomings that need to be improved. Surveys are organised at the college through group meetings, focus group interviews and case studies in:

- Electronic form;
- Pen-and-paper form.

Surveys of students' opinions about the quality, teaching content and organisation of the study process revealed that most students have a positive experience attending the college. For example, in the spring semester of the 2020-2021 academic year the overall evaluation of the content of the study subject/module and the quality of teaching almost reached 88% out of 100%.

In light of the survey of graduates, the results of the focus group interviews and taking into account the opinion of students the subject content was adjusted, the assessment methods were improved and other relevant changes were made. For example, students defined that

some lecturers lack interactive teaching methods. So lecturers receive annual training to improve the quality of their teaching. Training topics were expanded to include didactic aspects such as *Introductory training for the new lecturers of KUAS*, *Interactive tools for student assessment and remote teamwork* and other relevant topics.

(2) Expert judgement/indicator analysis

It can be determined that the students' opinions, obtained from the surveys, influence the decisions taken on the quality of the programmes of study. Most of the feedback from students in respect of the quality of the programmes of study is positive. The college carries out surveys in different forms and ways.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. The college's quality management system is established under the principles of the *Quality Manual.*
2. Feedback obtained from the stakeholders influence the decision making on the quality of the civil engineering study field programmes.
3. The collection of information is carried out using different platforms.

(2) Weaknesses:

1. Students should be further encouraged to co-operate to ensure improvements to the quality of the programmes of study.
2. To use a greater variety of tools to gather information from the stakeholders about the quality of the study programmes including using social media platforms.

IV. EXAMPLES OF EXCELLENCE

None Found.

V. RECOMMENDATIONS*

Evaluation Area	Recommendations for the Evaluation Area (study cycle)
Intended and achieved learning outcomes and curriculum	1. Group the programme learning outcomes in terms of the European Qualifications Framework (Knowledge, Skills and Attitudes) and thus reflect how the programmes align with the European quality engineering educational, academic or professional models and/or labels. 2. Justify the choice of teaching methods with the respective intended learning outcomes of course units. 3. Establish a permanent commission with stakeholders to observe the needs for programme outcomes updates.
Links between science (art) and studies	4. Additional supports and further encouragement should be in place for staff and students to participate in international conferences and publish scientific papers outside of Lithuania.
Student admission and support	5. The evaluation panel recommends that there should be further encouragement and support for students to incentivise them to participate in the Erasmus + mobility programme.
Teaching and learning, student performance and graduate employment	None.
Teaching staff	6. The teaching staff should be encouraged to be members of international professional associations.
Learning facilities and resources	7. Taking into account the needs of society for access to higher education, it is recommended to pay more attention to the provision of appropriate conditions for students with special needs. 8. For the civil engineering study field programmes, more attention should be paid to the acquisition of equipment for renewable energy resources and the establishment of laboratories in this area.

Study quality management and public information	9. Encourage students to further co-operate to ensure improvements to the quality of the programmes of study. 10. Use a greater variety of tools to gather information from the stakeholders about the quality of the study programmes including using social media platforms.

*If the study field is going to be given negative evaluation (non-accreditation) instead of RECOMMENDATIONS main **arguments for negative evaluation** (non-accreditation) must be provided together with a **list of "must do" actions** in order to assure that students admitted before study field's non-accreditation will gain knowledge and skills at least on minimum level.

VI. SUMMARY

This section of the report outlines the main positive and negative quality aspects of the civil engineering study field programmes at Kaunas technikos kolegija.

Intended and Achieved Learning Outcomes and Curriculum

The main positive aspects are that the construction engineering and road engineering programmes have a good balance between core and elective subjects which produces graduates with competencies and skills relevant to local, regional and national needs. Detailed procedures are in place for course unit outcome definitions for the content, teaching techniques and assessment methods. There is a protocol with Kaunas University of Technology to provide optional postgraduate studies in construction engineering. There is good cooperation between the college and the social partners for updating programme competencies and for the final theses. The main weakness is the lack of involvement with European engineering quality educational or professional models/labels.

Links between Science (Art) and Studies

The main positive aspects are that teachers publish scientific articles, and together with students cooperate in undertaking applied research and prepare papers and publications. This enables the newest themes in the civil engineering study field to be included in the teaching content of both programme's subjects. The main weaknesses are that teachers and students need to have greater participation in international conferences and publications outside of Lithuania.

Student Admission and Support

The main positive aspects are that there are clearly defined criteria and procedures to admit students to the programme as well as procedures for recognising formal and non-formal learning. The academic, financial, social, psychological, personal and other supports are available and are communicated to students. The information provided to students about their study programme is timely, systematic and relevant. There is no serious weakness although the mobility of students and teachers could be further encouraged and supported.

Teaching and Learning, Student Performance and Graduate Employment

The main positive aspects are that there is an established teaching and learning process that takes into account the individual student's needs, the teaching and learning process is adequately organised and delivered and that there is a well organised monitoring system of the student's study progress and feedback is provided to students. The employability of graduates and graduate career monitoring for the civil engineering study field programmes is appropriate. There is no serious weakness.

Teaching Staff

The main positive aspects are that the teachers, together with the Head of Department, plan the development of their competencies each year, publish scientific papers and are actively

participating in the Erasmus + mobility programme. The main weaknesses are that the teachers should be further encouraged to attend international conferences, publish outside of Lithuania and be involved in international engineering educational and professional associations.

Learning Facilities and Resources

The main positive aspect of the programme of study is that appropriate study conditions have been created for the students of both programmes including renewed laboratories, computerised workplaces and sufficient hardware and software appropriate to the study disciplines. Facilities are made available by the social partners during internships and for the practical placement elements of both programmes. The digitalisation of the civil engineering study field programmes is being considered and implemented. The main weaknesses are that the college should further enhance its facilities to support students with special needs as well as the sourcing of equipment for renewable energy technology demonstration in the laboratories.

Study Quality Management and Public Information

The main positive aspects are that feedback is provided to stakeholders regarding their input to influencing improvements of the study processes and that the college's quality management system is established under the principles of the *Quality Manual*. There are no serious weaknesses, although students could be further encouraged to ensure improvements to the quality of the programmes of study, perhaps by widening the variety of tools available to gather information (social medial platforms).

Expert panel signatures:

Dr. Maria Kyne, (panel chairperson), academic