CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

EVALUATION REPORT

STUDY FIELD of CIVIL ENGINEERING

at ALYTAUS KOLEGIJA

Expert panel:

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2. **Prof. 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

2022

Study Field Data*

Title of the study programme	Building Engineering Systems
State code	6531EX002
Type of studies	College studies
Cycle of studies	First cycle
Mode of study and duration (in years)	Full-time (3 years), part-time (4 years)
Credit volume	180
Qualification degree and (or) professional qualification	Professional Bachelor of Engineering Sciences
Language of instruction	Lithuanian
Minimum education required	Secondary education
Registration date of the study programme	17-03-2008

** 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 10th December, 2021.

Dr. Maria Kyne, *Dean of the Engineering and Built Environment Faculty, Limerick Institute of Technology (Ireland)*
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 HEI follows the outline recommended by SKVC. Along with the self-evaluation report and annexes, the following additional documents have been provided by Alytaus kolegija 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

Alytaus kolegija (hereafter – college) is a state higher education institution in the South Lithuania region. The main goals of the college are to provide higher education and professional qualifications corresponding to the needs of the economy of Lithuania and the region. The study programme of Building Engineering Systems (hereafter - Programme) was launched at Alytaus kolegija in 2008. Since then, the content of the study programme has changed taking into account the labour market conditions, the adopted regulatory acts and documents and the conclusions of experts of international external assessments in 2012 and 2016.

The college trains a specialist of civil engineering (building systems engineer) who is able to apply in practice the knowledge acquired during their studies and to compete successfully in the modern labour market.

Alytaus koelgija has an Academic Board and The Council of Alytus College is the governing body of strategic affairs. The Students Embassy represents students' interests. The Faculty Council of the Faculty of Health Sciences and Engineering is the highest self-government body that adopts decisions on issues of study organisation and assessment of teacher's academic activities. Faculty Council decisions are obligatory for all members of the faculty community. There are a range of college centres that support the activities of the staff and students of Alytus College. Committees and work groups are established for solving strategic and current issues.

II. GENERAL ASSESSMENT

Civil Engineering study field and first cycle at Alytaus 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	3
2.	Links between science (art) and studies	3
3.	Student admission and support	3
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:	23

*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.

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 Self-Evaluation Report (hereafter – SER), the civil engineering study field programme is denominated Building Engineering Systems (hereafter – Programme) of the college. It is considered a specialist training programme within the civil engineering area. It is intended to supply professional competencies to graduates and to respond to market requirements according to the Alytus College academic Board in 2020. Programme and the college staff is devoted to develop graduates' ability and competencies to work within expected professional profiles in this specialisation. The college has several units and centres that are dedicated to the society and labour market interactions (ISSC, H&A Export Company, UKC, MTVPVC, RTC, TRSC, MC and KC). These units and centres are intended to join students with employers and with professional organisations and eventually with local authorities and businesses. The college has a student body (AKSA) and a staff council (FC) that ensure that the voices of the major stakeholders within the college are heard. The college has study programme committees in charge of verifying achievement of programme goals and of the quality of programmes.

(2) Expert judgement/indicator analysis

The SER, annexes and the site visit virtual meetings revealed that cooperation exists between the college administration and related labour market representatives namely alumni and employers. It was noted that there is a lack of involvement in European related academic and professional associations in Building Engineering Systems. The faculty has a quality management system, based on representation of Alytus College sectors that may help the evaluation of the fulfilment of the labour market and society needs.

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

The SER states that the biggest challenge of the Programme is the digitalisation of methods and of techniques used in the construction industry.

The SER information about the study programme's aims and outcomes is presented in Table 1. In this table, competencies of graduates are grouped into five groups that represent different types of programme outcomes. According to the SER page 7, the outcomes of the BES

study programme are important and meaningful in solving topical problems of building engineering systems not only in the Alytus region, but also in a broader context, in companies of building engineering systems design and construction. Nevertheless, there is no concrete and specific evaluation of the conformity between the college mission, objectives and strategy with the mission, objectives of activities and strategy of the higher education programme. According to the SER the Programme is in accordance with the Lithuanian legal acts *Description of Requirements of Conducting General Studies, Description of Group of Engineering Study Fields, Description of the Lithuanian Qualification Framework* and *Description of Full-time and Part-time Mode of Studies.*

(2) Expert judgement/indicator analysis

The analysis of the SER and related documents have statements that show a match between the programmes intended outcomes and the mission, objectives of activities and strategy of the college. Also, according to the site visit virtual meetings, the surveys of students and the employers' statements there is suitability between the expected performance in real life situations for the Programme graduates.

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

(1) Factual situation

According to the SER the programme for full-time students has six semesters and eight semesters for part time students. The number of course units vary in each semester and have different weekly workloads. The total number of credits is 180 from the ECTS framework. Table 2 of the SER presents compliance between the full-time and part-time programmes and the requirements for the Programme in terms of credits, number of subjects, volume of contact work and volume of practical training. According to the SER the programme complies with the descriptors of the level 6 Lithuanian Qualifications Framework (LQF) and with other related legal requirements like the first cycle of the European Higher Education Area. In the SER the compliances are state without providing concrete evidence.

(2) Expert judgement/indicator analysis

A comparison table between the Programme outcomes and the requirements of the Lithuanian Qualification Framework for level 6 and other relevant regulations would help the judgement about that compliance. Although it is not a legal requirement, it was noted during the site visit virtual meetings that the programme outcomes did not take into account any European educational or professional quality label.

According to Table 2, the length of the study programme is 180 credits (values are according to the *Description of the General Requirements for the Conduction of Studies* (Order No. V-1168 of the Minister of Education and Science of the Republic of Lithuania, 2015), may be 180, 210 or 240 credits), the volume of study subjects of the field is 150 credits (values are according to *the Description of the General Requirements for the Conduct of Studies* is at least 120 credits), the volume of practice is 30 credits (value according to the *Description of the General*

Requirements for the Conduct of Studies is at least 30 credits), the volume of the final thesis is 12 credits (values are according to the *Description of the General Requirements for the Conduct of Studies* is at least 9 credits), the number of subjects per semester is between 4 and 7 subjects (value according to the *Description of the General Requirements for the Conduct of Studies* is no more than 7 subjects), volume of contact work is 45 percent (value according to the *Description of the General Requirements for the Conduct of Studies* is at least 20 percent) and volume of practical training is 32 percent (value according to the *Description of the General Requirements for the Conduct of Studies* is at least one third of the length of the programme of study).

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

According to SER study subject credits are determined as a function of the student workload without providing explanations about how the workloads are estimated. Workloads of students are generally obtained by the sum time of face to face activities, of self-study activities, of exams and of laboratory work. In the SER there is no information on the methods and processes used to estimate the workloads. Periodical reviews of workload are performed without details of the revision. Study subjects are defined in a linear and constructivist approach of organising their learning outcomes to comply with the Programme outcomes. The applied research concept is applied to prepare graduates for professional activities.

New study subjects, like subject Applied Research in order to strengthen students' readiness, of Computer Engineering Design, of Construction Law, of Renewable Energy Technologies, of Water Supply Systems Design, of Wastewater Systems Design, of Estimate Formation, of Maintenance of Engineering Systems and of BIM methodology, have been introduced to satisfy and accommodate developments in digitalisation and in applied research. The SER describes that the learning outcomes of each study subject are related with the outcomes of the study programme. The SER and annexes do not present direct and concrete evidence to justify the assumption about the stated relationship.

(2) Expert judgement/indicator analysis

The SER and site visit virtual meetings did not clarify how transitions between the programme outcomes and course units learning outcomes, teaching/learning methods and assessment techniques are designed and chosen. There is no mention in the SER or during the site visit meetings about the adoption of any common theory like the constructive alignment educational or pedagogical model between learning outcomes and assessment methods. Similar conclusions were made in terms of the definition of subject study learning outcomes and respective teaching/learning methods.

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

The SER presents the general notions that were used to guarantee a consistent development of competencies of students. According to the SER, the assessment of the graduates' competencies are made during the preparation and defence of the graduation thesis, assessing the learning outcomes of each study subject related to the outcomes of the study programme, to the study methods and methods of assessment chosen of student achievements. Principles, forms and the system of assessment of learning outcomes are presented in the *Order of Assessment of Learning Achievements of the College*. According to the SER, student achievement assessment procedures are based on clearly formulated criteria that allow for an appropriate and reliable reflection of the level of knowledge, abilities and practical skills that the student has achieved during the study period. Assessment criteria include systematisation of theoretical knowledge of the study subject (individual topics) – understanding, interpretation and evaluation of the relationship between individual components of the phenomenon or process as a whole, thorough level of basic knowledge of the subject, argumentation and justification of answers, practical implementation of the subject knowledge and the overall level of professional ability. The learning outcomes of the subjects studied and their assessment criteria are related to the learning outcomes of the BES study programme, combining them with each other and ensuring their achievement. Details about the choices made about programme subjects/modules and how to align these with the competencies achieved by students were provided in terms of the addition of new course units related to digitalisation and to applied research. The college has implemented a system to provide individual study plans based on the needs of each student in collaboration with the Building Engineering Systems study programme committee so that each student can have the possibility of developing required programme outcomes.

(2) Expert judgement/indicator analysis

The SER and site visit virtual meetings provided information about the changes made to the curriculum and the rationale for how each of the new programme subjects/modules was chosen taking into account the final student competencies. It should be underlined that there is a practice of providing individual study plans for Programme students according to an established procedure helping them to achieve their competencies.

The updating of competencies and the renewal of the curriculum, stated in SER, supports the judgement that the Programme is organised and designed to provide the intended programme outcomes for a professional graduate. According to the virtual site visit meetings, the use of laboratories and software were used to develop students' competencies in building engineering systems. According to the virtual site visit meetings, the laboratories were not available and the use of remote laboratories was not implemented during the Covid-19 pandemic period.

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

The SER states that students have to choose two optional courses, each worth 3 credits. For full-time students these courses can be undertaken during the fourth and sixth semesters and for part-time students these take place in semesters five and seven. Students can also choose the topics of the final practical training and of the final project/thesis. Students can also choose to participate in the Erasmus+ placement in a foreign higher education institution for up to 30 ECTS credits.

(2) Expert judgement/indicator analysis

Taking into account the possibility that students have to choose six credits of optional study subjects and the topics of the final practical training and of the thesis, it is adequate to consider that each student can adjust the professionalization part of their study programme to respective inclinations in a subject of interest.

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

(1) Factual situation

According to SER and annexes, titles of topics of theses comprise mostly design of new building engineering systems and modernisation of existing building engineering systems. Topics are chosen in agreement with professionals and companies. Alytus College has an established procedure, *Procedure for the Preparation, Submission, Defence and Assessment of the Graduation Thesis,* to choose the topics of the final theses, supervise the work done by the student and to evaluate in a public session the final result. Alytus College has a *Methodological Requirements for the Preparation of Independent Work and Graduation Theses* that supports students in their work. The procedure intends to guarantee that the intended learning outcomes of each thesis are met in accordance with the programme outcomes.

The graduation thesis Qualification Board is composed of a mixture of academics and professionals reflecting a cooperation that supports quality concerns in terms of the theses and the programme outcomes, Programme's usefulness and of the professional component of the programme. The SER presents examples of using a smart buildings approach to conduct research and design in areas of renewable energy and of energy efficient buildings.

(2) Expert judgement/indicator analysis

The SER and list of final theses have titles of theses that reflect a professional trend leading towards application of recent techniques and of updated knowledge in building engineering systems. There is considerable number of theses addressing energy performance, renewable energy and costs of building engineering systems. The examples presented reflect the consequences of the updated curriculum and of teaching methods including applied research.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. The existence of Alytus College/Building Engineering Systems internal bodies from different sectors that ensure the possibility for dialogue and communication among stakeholders.
2. Surveys of alumni and feedback to the Alytus College/Building Engineering Systems quality management system.
3. 30% of students are part-time students demonstrating the possibility for lifelong learning.
4. The topics of final theses are chosen by each student.
5. There is an attempt to use smart technologies and digital tools in teaching methods and in applied research.
6. The use of laboratories and software to develop students´ competences in building engineering systems.

(2) Weaknesses:

1. The lack of involvement with European quality engineering education pedagogical or educational models and labels.
2. The choice of assessment methods in terms of module learning outcomes are not linked with any common educational or pedagogical model.
3. The choice of teaching/learning approaches is not justified in relation to respective intended learning outcomes.
4. There were no remote laboratories available during the Covid-19 pandemic lockdown.
5. The list of the Programme learning outcomes is not described in accordance with the European Qualification Framework and with the Lithuanian National Qualification Framework. Both have a structure with competencies organized and classified in Knowledge, Skills and Attitudes (autonomy and responsibility).

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

The college presents its data on applied research works annually to the Ministry of Education, Science and Sport which includes the funds earned (17,700 Euros in 2018, 33,100 Euros in 2019). One of the college's aims is to increase the quality of teaching content through research involvement. The teachers of the college, together with social partners, are planning to implement the research project for the application of plasma technologies for water treatment

and wastewater. The college cooperates in the civil engineering study field with external social partners.

The research results have been published in research publications. During the evaluation period the Programme teachers published over 26 research articles in periodical academic journals, international conferences, academic databases and events.

College students have for more than ten years participated in the International conference *Students on Their Way to Science*. Research descriptions were issued in the annual conference publication *Collection of Abstracts Students on Their Way to Science.*

The priority scientific research activities at the college in the civil engineering study field includes heating system design, projects of building ventilation system design, assessment of systems efficiency and economy, thermo-vision comparison of residential houses, design of building microclimate maintenance systems, applications of renewable energy and projects of water and sewage systems.

The students and teachers of the college participate in the ERASMUS + exchange programme. College through the Erasmus + programme has connections with 25 foreign universities and 19 foreign companies.

(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 the International projects, local and international conferences and seminars;
- 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

The teachers and students of the college carry out research in the following areas:

- analysing of indoor air quality;
- ventilation;
- water system evaluation;
- thermal imaging of buildings and their engineering systems;
- building air-tightness;

Accordingly, the content of study subjects was updated.

(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;
- The newest themes for civil engineering science are involved 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

The students of the college are directly involved in the Research field as follows:

- participation in scientific discussions with Lithuanian and foreign scientists (for example, students of the college participated in discussions in the international scientific conference *Students on Their Way to Science* in Latvia);
- together with the teachers, are preparing the expertise, evaluations of projects and design works;
- application of elements of the research process in the preparation of independent written works - abstracts, reports, reports on educational and professional activities practices, term papers, final theses;
- search for information in international scientific databases;
- participation in national and international events (*Students on Their Way to Science* in Latvia);
- publication of scientific articles (for example, Alytus College issued the conference publication *Students Applied Research 2021: Theory and Practice*);
- preparation and presentation of scientific reports at national and international conferences and seminars (*Students on Their Way to Science in Latvia*);
- co-authors with lecturers of publications and research.

(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 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 new and innovative civil engineering themes.
3. The newest themes for civil engineering science are involved in the teaching materials.
4. The teachers, together with students, prepare papers and publications.
5. The teachers and students are cooperating on research projects.

(2) Weaknesses:

1. Few teachers participate at the International level.
2. Few students participate at the International level (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 the Programme is regulated by the college student admission rules and the conditions of general admission to Lithuanian higher education institutions. Those wishing to study on the Programme must have passed at least one state maturity examination and have at least a secondary education. When admitting state funded students to the programme, the competitive score is calculated from four subjects of the state examination (mathematics, physics, Lithuanian language and literature and another subject). Admission requirements vary depending on when the entrants completed their secondary education. Persons, applying for non-state-funded places in the college who acquired secondary education in 2018 and later, must have passed at least one state maturity examination.

Regardless of the year of secondary education, the minimum entry competitive score was 4.3 in 2019 and 3.5 in 2020. Additional points may be added to the competitive score in accordance with the criteria laid down by the Ministry of Education, Science and Sport or criteria established by the college. All information about admission to college programmes is available on the college website under the link *For Entrants* as well as in the press and social media. In 2018, the Programme did not gather a sufficient number of students in stage one, so it was not offered. The number of students who signed agreements to enter the Programme

was 15 students in 2019 and also 15 students in 2020. The highest average competitive score was in 2019, the lowest average competitive score was in 2020, the highest score also was in 2020. Admission to later years of the programme is based on the recognition of prior learning.

(2) Expert judgement/indicator analysis

Admission to first year of the Programme is controlled by the regulations set out in the national Lithuanian Ministry of Education, Science and Sport and by criteria set by the college. Admission to later years of the programme is based on the recognition of prior learning. The number of students admitted to the programme is low and there were no students admitted in the 2018 academic year.

The employers confirmed that there is a serious shortage in the number of graduates with the Building Engineering Systems specialist knowledge and skills. The evaluation panel is of the opinion that promotion of the Programme to prospective students could be enhanced by promoting construction and engineering systems careers with the assistance of the social partners.

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

The recognition of study outcomes achieved by a person in Lithuanian higher education institutions or foreign higher education institutions and competencies acquired by formal education, its principles and the procedure of formalisation are performed in accordance with the Alytus College Description of the Procedure for Recognition of Study Outcomes. The procedure applies to persons who graduated, studied or are studying in Lithuanian or foreign higher education institutions according to higher education study programmes and who wish to continue their studies. The studied subject is recognised if its volume is at least 75 per cent of the volume of the study subject provided for in the study programme being studied or intended to be studied and corresponds to the essential goals and the main parts of the subject content.

Recognition of non-formal and informal learning at the college is applied in accordance with the Description of the Procedure for Assessment of Learning Achievements and Recognition of Competences Acquired in the Non-Formal Adult Education System. The description of the procedure applies to persons studying according to a formal college study programme but seeking for evaluation of non-formal and informal learning or self-education learning achievements. Any person has the right to claim the assessment and recognition of his or her learning achievements acquired through professional activities, voluntary activities, courses, seminars, internships, execution of projects and during leisure time.

During the last three years, there have been eight students whose formal education has been recognised and no non-formal or informal learning was recognised for students of the Programme.

(2) Expert judgement/indicator analysis

The Study Programme Committee (hereafter – SPC) evaluates the recognition of prior learning and experience of prospective students according to college policies and procedures. The evaluation panel determined from discussions with staff and students, that the college procedures for recognition of prior learning are being implemented.

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

(1) Factual situation

Erasmus + student mobility is implemented by enabling students to study for an integrated period of study and/or to have an internship in a company for up to 12 months in another country participating in the Lifelong Learning Programme.

An Erasmus scholarship is awarded to students during their studies or internships under the Erasmus + programme (the payment of national scholarships or loans is not interrupted during the period of these studies) and a lump sum is granted.

During the introductory week students are introduced to the opportunities to participate in the Erasmus + mobility programme and information on Erasmus + competitions for study and practice abroad and submission of documents are provided. Erasmus + students returning from abroad also make presentations on their studies or practice experience abroad. Information about Erasmus + competitions for studies and internships abroad is published on the college website, in social media and interactive information stands in Lithuanian and English. The information is also sent to students by e-mail. The International Relations and Project Centre organises meetings with students participating in the Erasmus + programme. Students are also provided with consultations in the International Relations and Projects Centre.

The Programme is offered in the Lithuanian language only and therefore there have been no students who have come from abroad to study the programme in the last 3 years. During the period under review, one student of the Programme went on internship under the Erasmus + programme in Iceland. In 2019 and 2020, no students of the programme participated in the Erasmus + exchange programme.

(2) Expert judgement/indicator analysis

Opportunities to participate in academic mobility for a semester or for a practical placement element of a 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. Alytus College advertises the Erasmus + exchange opportunities and supports students with a dedicated International Relations and Project Centre support.

The evaluation panel notes that the number of students availing of the Erasmus + opportunity is very low. At the meeting with students they indicated that they have received sufficient information on the opportunities to study abroad but many have part-time work or families

which make travel difficult. The panel noted that no student came to the programme during the review period.

The evaluation panel recommends that the academic mobility of students be encouraged further with an emphasis on the benefits of mobility promoted to students. Additional language support may be necessary.

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 Career Centre organises, administers and coordinates college relations with social stakeholders, organises individual consultations for students on employment opportunities and career planning issues and teaches the students to properly prepare a curriculum vitae and cover letter. The centre website provides information on career planning, the latest job advertisements and career opportunities. The interactive career management information system (CMIS) provides support on student career counselling.

The Building Engineering Systems Study Programme Committee takes into account the requirements of employers for future employees and provides students with information about internships and vacancies. The Career Centre cooperates with specialist psychologists of Kaunas Customer Service Department Alytus Branch, who develop and implement psychological training programmes for the development of social and personal competencies, conflict resolution and negotiation, problem analysis and decision-making skills. Lectures and seminars on psychological assistance and career opportunities are organised for students.

According to the College's Scholarship Award Regulations, students who do not have academic debts can receive a social scholarship, incentive scholarship, orphan's scholarship, mobility scholarship, one-time social benefit and/or a bonus. Twelve of the students on the Programme received scholarships, social benefits and/or bonuses in 2018 with thirteen recipients in 2019 and seven in 2020. None of the students received a social scholarship over the last three years.

Since 2019 the college provides psychological and counselling assistance to students. For confidential free psychological consultations students must register by e-mail or telephone. The college's psychologist also conducts group sessions aimed at improving students' mental health and providing a better environment for study.

All college students, who request it, are provided with hostel rooms. From 2018 to 2020, 15 students of the study programme requested and lived in the hostel.

(2) Expert judgement/indicator analysis

The number of students who receive scholarships and other financial support from the Lithuanian state and the college is high. The evaluation panel is impressed with the range of academic and financial supports available for students and recommends that this be further

extended to supporting students to get involved in presenting academic and project work at conferences.

3.3.5 Evaluation of the sufficiency of study information and student counselling

(1) Factual situation

Introductory week events are organised in the first week for the Programme students. Students are introduced to the goals and outcomes of their study programme and career opportunities. They are provided with information about the programme, their organisation and documents regulating them, the length of the studies, modes, optional and alternative subjects, study schedules, study calendar, students' rights and responsibilities, incentives, penalties, achievement assessment and criteria, the study outcome assessment system, academic mobility and scholarships. Students are introduced to the college's information system. The Dean of the Faculty appoints a tutor for each academic group, who regularly provides information and advice to students on issues of concern and organises group events.

The Department of Engineering prepares consultation schedules, informs students about the time and place of lecturers' consultations. At the students' request, communication and consultations take place. Effective support for students in the provision of teaching/learning methodological material utilises the virtual learning environment MOODLE, where each teacher provides a description of the subject taught with stated goals and outcomes, methods, the teaching/learning assessment system and reference literature. Direct consultations are also provided by e-mail using the *Microsoft Teams* programme. Before choosing optional study subjects of the study programme, students are provided with detailed information about the significance of mandatory and optional study subjects and the opportunities provided for their further career. These consultations are provided by the Head of the Department.

College students have the opportunity to study according to an individual study schedule, combining studies with work and family. During the period under assessment there were no students studying according to an individual study schedule.

According to the study organisation process, twice a year the Building Engineering Systems Study Programme Committee analyses the feedback on the study programme, its implementation and organisation of the study process, makes suggestions on the improvement and renewal of the study programme to the Faculty Board and organises meetings with students to discuss the survey results.

(2) Expert judgement/indicator analysis

Students are provided with appropriate and adequate Programme information by the college, faculty and department commencing with induction in the first year. Microsoft Teams and other electronic communication tools are utilised to provide students with up to date information at appropriate times and to undertake individual consultations. Discussions with staff and students confirmed to the 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, implemented and communicated to students.
2. There is a clear procedure for recognising prior learning and it is implemented for the Programme.
3. The criteria and procedures to admit students to the Programme are clearly defined and implemented.
4. The information given 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.
2. The number of students admitted to the programme each year is low with no students admitted in the 2018 academic year. Engagement with the social partners could be extended to promote building engineering systems careers to second level students and hence the 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 Programme is implemented by both full-time (3 years) and part-time (4 years) delivery modes. The full-time and part-time academic calendars are prepared each year showing the duration of the semesters, types of internships, periods of examinations, holidays as well as the preparation and defence of the final theses. Based on the study calendar, a schedule of classes is created. The student schedule includes a maximum of eight academic hours per day. Part-time students have two sessions per academic year.

The study subject consists of 40% contact work and 60 % self-study. The average number of contact hours per week is 20 hours. The semester ends with a 2-3-week examination session.

During the site visit virtual meetings, it was explained that there is a distance and blended teaching/learning approach currently being utilised in the college. During the COVID-19 pandemic, programme content was delivered using the tools of a virtual learning environment (MS Teams - for practical tasks and Moodle- for individual tasks, tests, and other information and communication functions). Students were also provided with assistance in acquiring knowledge remotely, namely, additional consultations that were not scheduled in advance. Consultations with students were conducted by telephone and e-mail.

The content of the study programme uses traditional study methods, supplemented by innovative educational and research methods. Laboratory work, practical work, individual or team projects, consultations and seminars were the main forms of programme delivery used by teachers. Case and situation analysis, project preparation, discussions with professionals and practitioners and researchers were also used to support the teaching methods. The teaching/learning process is organised in the form of teamwork, active participation and dialogue. The implementation of student internships in companies is regulated by the *Procedure for Organizing Student Internships in Organizations, Preparing, Submitting, Defending and Evaluating Their Reports* (2017).

A cumulative performance appraisal system is applied. At the beginning of the semester, the lecturer of the study subject informs the students about the system of assessment of study results specified in the *Procedure for the Assessment of Study Results* (2018). The organisation and evaluation of independent work in the college is regulated by the *Alytus College Methodological Requirements for the Preparation of Independent Tasks and Final Theses*, *Procedures for the Organization of Alytus College Internships (cognitive, professional, final), Preparation, Submission, Defense and Evaluation of Their Reports*, EC *Special Methodological*

Requirements for the Final Thesis Preparation and the *Special Methodological Instructions for the Independent Work (Project).*

The students' independent work includes the preparation for seminars, laboratory work, tests, examinations, independent individual and group assignments, preparation of independent research papers, reports, professional bachelor's theses or projects. The descriptions of study subjects provide for the tasks of independent work and the relative weight of their assessment in the cumulative assessment.

Graduates of the Programme will be able to continue their studies at several Lithuanian universities (VGTU, KTU). Vilnius Gediminas Technical University offers 2 years of equalisation studies, after which a qualification degree is awarded and a bachelor's diploma is issued. Graduates also have the opportunity to enter additional studies. Persons who have completed additional studies are issued an academic certificate of completion of these studies, which entitles them to enter second-cycle (master's) study programs at the same university. From 2020, four universities of the country (VGTU, KTU, Vytautas Magnus University, MRU) have started to implement bachelor's and master's degree programmes in Alytus. Therefore, have a better opportunity to obtain a master's degree.

(2) Expert judgment / indicator analysis

The teaching and learning process in the college is organised by academic calendar and has adapted well to the current complex, COVID-19 pandemic situation. According to the administration, teachers and students during the site visit virtual meetings, teleworking has proven successful and has given an even greater impetus to computer and software innovation in the college. It is planned to further develop distance learning, as it is a very convenient way to combine work with studying, the opportunity to participate in lectures at home and to study on a flexible schedule.

Student achievement assessment procedures are set out and based on clearly formulated criteria in the *College Assessment Procedure* (2018). The cumulative assessment system applied in the college allows for a full and objective assessment of all student achievements during the study process. Students 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

Since 2012, the State Studies Foundation implements the project *Increasing the Accessibility of Studies* financed by the EU Structural Funds. The training organised by this project was attended by 11 employees of the college (administrative staff, academic support staff, lecturers), who acquired specific knowledge about the types of disabilities and their special needs, technical assistance tools and environmental adaptation, individualisation of the study process, curriculum and tasks and the possibilities of adapting forms and achievements. For

the adaptation of the study process to students with special needs, Alytus College has prepared *Official Guidelines on the Adaptation of Studies to Individual Needs*. From 2012, Alytus College was a partner in the European Social Fund-funded project *Ensuring Accessibility of Studies for Students with Special Needs* implemented by the State Studies Foundation where the financial support measures significantly facilitated equal participation of students with special needs in the study process, covering studies, science and active leisure. The college has a coordinator for students with special needs, an employee of the study centre who provides comprehensive assistance and advice. Students with special needs have the opportunity to individualise the study process defined by the *Alytus College Student Study Procedure* (2012).

(2) Expert judgment / indicator analysis

Appropriate conditions are created for students with special needs and socially vulnerable groups to study. Appropriate conditions are ensured by the possibility to create an individual study and assessment schedule. The college has also created optimal workplaces for the study of students with disabilities, adapted the physical and information environment, and purchased special software and hardware.

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 students' study progress is carried out by the lecturer and the Building Engineering Systems study programme committee. The cumulative assessment system is used in the study process to ensure the effectiveness of the measures for improvement and monitoring of the student's learning outcomes. The results and feedback to students are provided to assess the effectiveness of students' knowledge, understanding and skills, to analyse the advantages and disadvantages of the established assessment criteria and the student's achievements which influence the results of their further study programmes. The civil engineering field study programme achievements are delivered in different ways:

- Individually or in groups;
- Using distance and electronic teaching/learning environments;
- In the individual consultations by teachers.

Eventually, the generalized results of students' study progress are introduced to each lecturer. Depending on the assessment results, teachers make changes to the content of the study subject and/or study and assessment methods.

Specific measures are applied to the first-year students to determine their initial level of knowledge and skills, specific learning and other support needs and providing information (e.g. adaptation week for first-year students, additional lectures on the development of knowledge and competencies in particular subjects or provision of tutorials).

(2) Expert judgement/indicator analysis

The monitoring of student performance, progress and feedback provided to students is considered good and adequate. There are various ways used to deliver feedback to students which meet the needs of students. From the information obtained in the SER it is stated that the college takes sufficient steps to provide, introduce and analyze students' study progress and achievements.

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

(1) Factual situation

College monitors the employment of graduates after 6 months, 12 months and 3 years after graduation by conducting direct surveys of graduates and analyzing the data collected in the Career Management Information System (CMIS). CMIS objective monitoring of graduates' careers is carried out on the basis of the data provided by *Sodra* on graduates working in Lithuania. *Sodra* data is not updated when the graduates' careers change, the CMIS does not provide data on graduates working abroad or for self-employed graduates. That is why the subjective monitoring of graduates' careers (with the consent of graduates) is carried out by CMIS and by contacting graduates individually 1 and 3 years after graduation.

According to the twelve-month CMIS survey, it can be seen that more than half of the graduates moved from lower professional category positions to higher category positions. The total average employment of graduates from the Alytus College Building Engineering Systems programme for the last 3 years is 95 per cent, the average of the employed graduates according to the acquired qualification level is 68 per cent.

According to the survey of subjective career monitoring of graduates of the Programme between 2018 and 2020, it can be seen that graduates have adequate professional preparation and have acquired competencies positively. During the survey, the graduates were asked to what extent they supported the statements about the theoretical and practical knowledge provided by the college, the competencies developed, and the practical training that is useful for professional preparation. All graduates agreed with the presented statements and evaluated their professional preparation and competencies positively.

(2) Expert judgement/indicator analysis

According to the information obtained from the site visit virtual meeting with alumni and the college Self-Evaluation Report 2021, the graduate career tracking is good. The college conducts surveys to determine the graduates' attitude to their experience in previous studies and their career perspectives. The average employment level is high.

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

(1) Factual situation

College has a Code of Academic Ethics which provides information on tolerance and non-discrimination in order to foster academic integrity, transparency and accountability to the entire academic community. The Code of Academic Ethics highlights the standards of academic integrity, responsibility, equality, non-discrimination, accountability, transparency, sustainable use of resources, academic freedom, impartiality, trust and respect in the assessment of research and study works. During the evaluation period there are no records of violations of the principles of academic integrity, tolerance and non-discrimination.

(2) Expert judgement/indicator analysis

College has a Code of Academic Ethics which ensures academic integrity, tolerance and non-discrimination.

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

College's *Study Regulations* defines the students' right to an appeal of an examination or assessment outcome and complaints regarding the study process. It provides for procedures for lodging an appeal, forming an appeal commission and examining the appeal. During the evaluation period there were no appeals from students of the Programme.

(2) Expert judgement/indicator analysis

Students have the right to appeal if they are unsure about the implementation of the assessment processes or if they wish to make a complaint about any aspect of the study process by using college regulations.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. 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. College provides good conditions for ensuring socially vulnerable groups and students with special needs can complete their study programmes.
3. There is a systematic monitoring of student's study progress and feedback to students supported by college procedures.

4. There is adequate tracking of the employability of graduates and graduate career monitoring.
5. Policies and procedures to ensure academic integrity, tolerance and non-discrimination are in place.
6. Procedures for the submission and examination of appeals and complaints regarding the study process within the civil engineering study field are in place.

(2) Weaknesses:

None.

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 the college the subjects of the Programme are taught by 13 teachers of whom three have doctoral degrees and remain have master degrees.
The rotation of the teachers is low with 69% of teachers having more than 3 years professional experience. During the evaluation period, each teacher had 3 students on average.

The Programme teachers who work not less than half of the full-time workload and for more than 3 years comprise 54% of all the civil engineering study field teachers.
The teachers of the civil engineering study field programme must be certified every five years.

Teachers with practical experience, who guide professional internships and applied final works, teach the subjects that are provided for acquiring the professional competencies with the aim of ensuring the students practical development.

(1) Expert judgement/indicator analysis

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

- the number of teaching staff is sufficient to deliver the programme;
- the teaching staff publish scientific articles;
- the teaching staff have the appropriate scientific and professional background.

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

College has 49 Inter-Institutional Agreements with partner institutions in the *Programme and Partner Countries* within the Erasmus+ programme, 10 of which are for cooperation in the civil engineering study field. In the college the results of teachers' participation in academic mobility are analysed and recognised during the assessment of annual teachers' activities reports and teachers' certification. During evaluation period the numbers of outgoing teachers remained steady and was 23% of all teachers of the civil engineering study field.

College realised the project *Innovative ICT Education for Social-Economic Development* under Capacity Building in Higher Education action of the Erasmus + programme. In 2015-2018 the Programme teachers participated in the implementation of the Erasmus+ programme KA2 project *Science, Math and Relevant Technology*. Five teachers from Alytus College visited the European Organization for Nuclear Research (CERN) in Switzerland.

(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 participate in the Erasmus + exchange programme.

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

(1) Factual situation

College teachers are encouraged to improve their teaching qualifications. The Programme teachers study for a doctorate, they improve their qualifications in short term and long-term courses, they carry out research and applied research activities, they prepare and participate in international and local projects, they participate in international mobility programmes and they participate in seminars and conferences and intensively learn foreign languages.

The teachers collaborate to share experience, introduce their methodical materials prepared in various projects, introduce the newest teaching methods and IT innovations, organise language courses for colleagues, arrange conferences, read reports, participate in the projects and conferences prepared by other colleagues, deliver lectures in different science institutions and they are active in the work of science councils and committees.

The teachers participate in research activities by publishing scientific articles, preparing reports for scientific-practical conferences, publishing course books and other teaching books, participating in expert and consultation activities in the institutions and companies of Lithuania, reviewing of course books and other teaching means.

(2) Expert judgement/indicator analysis

- The programme teachers are improving their competences on an on-going basis. The SER has highlighted the following in relation to teachers improving 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 competences;
- The teachers develop their practical competences in the local region companies.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. The teaching staff publishes scientific articles.
2. The teachers are encouraged to improve their competences.
3. The teachers participate in the Erasmus + exchange programme.
4. The teachers develop their practical competences in the local region companies.
5. The teachers are members of various professional associations.

(2) Weaknesses:

1. The teaching staff has limited involvement in international associations.
2. The teachers are not very active in International conferences outside of Lithuania.
3. Most of the scientific articles are 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

The SER of the college states that the area of the premises intended for the implementation of the Programme is 1561 m^2, of which 1012m^2 is intended for theoretical studies and 549 m^2 for practical and laboratory work. The area per student currently in auditoriums is 22.49 m^2 and laboratory space is12.2 m^2. Twelve auditoriums are used for theoretical teaching and

seven laboratories for practical training. Most auditoriums have 30 workplaces, 3 auditoriums have 40 to 120 workplaces, a total of over 350 workplaces, and laboratories have 149 workplaces. There are up to 10 students on average per group of students and the laboratories can accommodate from 10 to 25 students at a time.

The auditoriums are equipped with computers, multimedia projectors, whiteboards or interactive whiteboards, conference boards and/or LCD TVs, audio and video recorders and video cameras for foreign language studies. Specialised software is used in the teaching process of many subjects taught on the Programme as outlined in the SER.

During the site visit virtual meetings, the evaluation panel were informed that the COVID-19 pandemic caused difficulties with working in laboratories and specialised one-man areas. This challenge was resolved quickly and expeditiously by relocating the laboratory equipment to larger premises in order to meet the requirements of the COVID-19 pandemic and to provide the necessary space.

Students have free internet access in the college dormitory. The dormitory has two computerised workplaces for students in self-isolation for distance learning.

The Self-evaluation Report states, and during the site visit virtual meetings it was mentioned, that in order to ensure the quality of the programmes of study for students with special needs, the college has purchased special equipment including mobile staircase YACK N 912 for students with reduced mobility, specialised desks, Braille printer VP Columbia, ergonomic chairs, orthopaedic pillows, armrests, keyboard pads, as well as adapted SANs for the disabled students and the *Aerolight* ramp is optimised for student disability/mobility.

The programme students carry out internships in companies whose activities are in line with the goals of the programme of study and the internship enables students to acquire the necessary practical knowledge and skills in the design, installation and maintenance of civil engineering systems. The college has concluded cooperation agreements with twenty-five construction engineering companies (named in the SER). The College, in cooperation with the Lithuanian Confederation of Business Employers, the Lithuanian Business Confederation and the Vilnius Chamber of Commerce, Industry and Crafts, provides students of all programmes with the opportunity to find an internship and register on the student internship search portals. Companies and organisations publish information on internships on these websites. Students can also find internship offers in the Interactive Career Management Information System, in which the College has registered 84 Lithuanian companies.

The SER indicates that the college library uses the implementation tools of Lithuanian academic libraries information infrastructure for science and studies including the BIS (Library Information System with Aleph Software), eLABa (Lithuanian Academic Electronic Library), ETD, PDB (Publications Database), LVB (Lithuanian Virtual Library) and the Lithuanian Science and Studies e-publishing system. According to the January 2021 data, the college library has 324 relevant publications for the civil engineering study field. Twenty-three new publications were purchased between 2018 and 2020. The most important publications utilised in the Programme were published no later than in 2016.

The college subscribes to the study programme scientific and technical periodicals in the professional field: *Build!, House and Me, Construction and Architecture, Science and Technology, Structum.* Students also use electronic publications published by Vytautas Magnus University, the Lithuanian Heat Suppliers Association, Qualifications and Vocational Training Development Centre, and others.

The college community uses the EBSCO Publishing database package. EBSCO Publishing offers over 100 full-text, reference and bibliographic databases on a variety of thematic topics. In them, students and lecturers find descriptions of research in the field of building engineering systems, and overviews and presentations of global innovations. The college library subscribes to the Taylor & Francis database, which provides access to publisher's full text collection of journals in the field of civil engineering (*Welding International, Building Research & Information, Energy Engineering, European Journal of Engineering Design, Journal of Energetic Materials*, and others). The library has a modern RFID system for book accounting, protection and issuance. This barcode technology allows fully automated the issuance, return and protection processes. The library is equipped with 58 workplaces for students' independent work, of which 35 are computerised.

The college uses the virtual learning environment Moodle, which uploads methodological materials prepared by teachers (summaries, assignments of practical and independent work, methodological instructions for doing independent work, etc.) and is easily accessible to students. The MS Teams system is widely used in the College.

(2) Expert judgment / indicator analysis

The assessment was based on college's Self-Evaluation Report 2021 and the information received during the site visit virtual meetings, that the premises (auditoriums, laboratories) with full equipment are sufficient for the quality of the Programme, but the software available only partially meets the needs of students to achieve the results of digital modelling software (Revit, BIM).

In the description of the SER and during the site visit virtual meetings, the evaluation panel were provided with detailed information about the special equipment available at the college for students with special needs. The evaluation panel determined that the quantity of tools and equipment designed to ensure an effective learning process is sufficient for students with special needs.

The college successfully cooperates with companies from Alytus County and other regions and provides excellent conditions for building engineering systems students to do professional internships, gain real work experience corresponding to their specialty in well-known Lithuanian companies and organisations.

The methodological resources (textbooks, books, periodicals, databases) for the Programme in the library are appropriate, sufficient and available in various forms. The library funds are updated annually, supplemented by both Lithuanian and foreign methodological resources.

The work of the library is fully computerised. Students can use the library and computerised workplaces for independent work.

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

(1) Factual situation

Each year, the process of planning and updating the resources required for the implementation of the Programme is carried out in accordance with the *Infrastructure Management Process* approved by the Alytus College Quality Management System. After assessing the changing needs of students and teachers, the department supervising the programme assesses the need to purchase and/or upgrade equipment. An annual procurement plan for goods and services is drawn up and approved in accordance with the college's strategic business plan.

College actively participates in the project activities including modernising the infrastructure of the college under the project *Development of the Regional Technology Centre*, renovated the buildings laboratories, acquired modern equipment for the implementation of the civil engineering study field programme, established four new laboratories and renovated three laboratories. According to the project *Development of the Faculty of Information and Communication Technologies of Alytus College*, the Programme students will soon have access to the Solid Works program and 3D equipment (scanner, visualisation system, printers, virtual reality equipment, drones).

During the site visit virtual meetings, it was emphasised that the social partners also make a significant contribution to the process of planning and updating the resources required for the implementation of the programme of study with contributions from Alytus City Municipality, *JSC Traidenis* and others.

(2) Expert judgment / indicator analysis

After evaluating the information provided in the college Self-Evaluation Report 2021 and received during the site visit virtual meetings, due to the planning and updating of resources required for the Programme, it can be concluded that the needs of teachers and students are assessed when planning the acquisition of equipment to improve the study process.

The recommendation made to the college in the previous evaluation has been taken into account and it has been implemented '*it is recommended to make the best possible use of the college's modern laboratories and equipment*' – course unit descriptions have been updated and more laboratory work is scheduled.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. Renovated laboratories, computerised workplaces, and a sufficient amount of technical equipment to meet the needs of students and teachers are used to implement the Programme.
2. Students with special needs are provided with appropriate conditions to study, taking into account their special needs.
3. The college, in cooperation with the social partners, has the opportunity and conditions to organise the traineeships appropriately and to use the material facilities available to the social partners during the traineeships.
4. Teaching materials (textbooks, books, periodicals, databases) in the library are appropriate, sufficient and available in various forms. In the library, students have access to modern facilities and computerised workplaces.

(2) Weaknesses:

1. More attention should be paid to the acquisition of the full version of the most advanced software (Revit and BIM) and their implementation in the study process of the civil engineering study field programme.

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

The Study Quality Management system of college meets the requirements of the ESG and ISO 9001: 2015 standards. The main documents regulating to the study quality management system are the *Quality Manual* and the *Quality Policy and Procedures*. All Alytus College structural units participate and take responsibility for the implementation of study quality improvement. According to the areas of assessment (management, study planning, study organization, study achievements, and others), a report on the activities of Alytus College is prepared every year, which is approved by the Board of Alytus College.

The process of considering and approving the quality assurance of the Programme is constantly improved, taking into account new legal acts, college internal study quality assurance procedures and the development of the concept of quality in higher education. college seeks to attract competent lecturers and constantly improve their competences therefore an employee training plan is prepared and approved every year.

A study programme committee is formed, the composition of which is approved by the order of the Director of the college and consists of a coordinator (a lecturer of the department of the study programme) who is the Chairman of the Committee, the Dean of the Faculty, a student representative, an employer or another representative of the social partners. The study programme committee is responsible for the implementation of the study programme and quality assurance. It is responsible for the continuous supervision and assurance of the study programme quality.

Material resources for effective management and improvement of the study programme are planned according to the approved *Infrastructure Management Procedure* once a year.

(2) Expert judgement/indicator analysis

College's study quality management system meets the requirements of the ESG and system ISO 9001: 2015 standards. The internal quality assurance system is considered satisfactory as well as the composition of the study program committee. Based on the information provided in the SER the process of approving the quality assurance of the programme is considered good.

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

(1) Factual situation

All stakeholders are involved in the processes of assessment, improvement and quality assurance of the study programme and participate in various working groups and committees:

- Preparation of self-assessment of study programme;
- Study programme committee;
- Preparation of documents regulating study quality assurance activity;
- Teacher attestations;
- Defense of final theses;
- And others.

The feedback from stakeholders is collected by surveys, but the most effective feedback is obtained while conducting interviews and round-table discussions. All internal stakeholders in college can submit programme improvements for consideration by the study programme committee. Each year, a summary of the role of the social partners in the development of the Programme study is prepared and new plans are created.

(2) Expert judgement/indicator analysis

Stakeholders are involved in the programme implementation process and are members of the study quality committee. Feedback is gained regularly through surveys, interviews and other methods. Also, the stakeholders are involved in various working groups and committees/commissions.

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

(1) Factual situation

All information related to the Programme is available for social stakeholders through the college website (rules of admission of students, the goal and outcomes of the study programme, study plans (full-time, part-time)). Information about the results of the study programme quality assessment and programme improvement is provided on the Alytus College website and quality management system. The publicity of the information about the study programme contributes to its improvement. Results are presented to the Alytus College Council. Seminars, forums, round table discussions on quality, its improvement and assessment outcomes are organised for the college academic community. All information related to the programme of study is presented in the events of the introductory study week.

(2) Expert judgement/indicator analysis

The collection, use and publication of the Programme information at the college is satisfactory. The important information is available on the college website for all the stakeholders. Also, the college took into account previous evaluation panel recommendations and placed the relevant procedures and policies to the college's website.

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

Regular student surveys are conducted at the college to ensure the quality of the Programme of study as follows:

- Survey of those who entered first year (once during the introductory study week);
- Survey on the introduction to Study Week (once after the events of the study week);
- Survey on the subject taught (Twice a year at the end of the semester);
- Evaluation of student's practice in a chosen company (At the end of practice);
- Survey of Erasmus+ students (At the end of Erasmus + exchange);
- Survey of final year students about the study programme (Once a year);
- Survey of graduates (Once a year using the karjera.lt system).

In the spring semester of 2019–2020, after the end of the pandemic lockdown college organized a targeted survey on the strengths and challenges in the organisation of distance learning. For example, 32 graduates took part in the 2021 graduate's survey. The results show that 75% of graduates surveyed feel sufficiently prepared for a professional career. Another example is student's satisfaction with the remote study survey of 2020. There were 66 participants and results of the study revealed that 42.6% were satisfied with distance learning during the quarantine period, 32.4% were fully satisfied and 6% responded that they were dissatisfied. The students noted that although they were studying remotely for the first time, everything went smoothly and with quality, and it was also a great opportunity to combine study with work. Respondents indicated that they had received all the necessary information (i.e. instructions on how to connect and use video systems) but there was too little training for several students.

All the results of the surveys are available on the College's website (https://alytauskolegija.lt).

(2) Expert judgement/indicator analysis

College collects opinions of student through different surveys at different times in their study process. The college strives to obtain the experience of every student from the first year to the graduate. The evaluation panel welcomes the large variety of questionnaires implemented in the college. From the examples provided in the SER, it states that at least 30 students and graduates participate in the surveys and that at least 70% of respondents are satisfied with the civil engineering study field programme in the college.

Strengths and weaknesses of this evaluation area:

(1) Strengths:

1. College's quality management system meets the requirements and system standards.

2. The wide range of surveys implemented to ensure students' and employer' satisfaction of the Programme.

(2) Weaknesses:

1. It is recommended to mention the social partners (companies) in the SER and further involve them into the study improvement process.

IV. EXAMPLES OF EXCELLENCE

Not Applicable.

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 programme aligns with the European quality engineering pedagogical or educational models and labels. 2. Link the assessment methods to a common model across the programme. Also justify the teaching methods in relation to the respective intended learning outcomes. 3. Develop the teacher's abilities to deliver laboratory classes remotely in case future pandemic lockdowns occur.
Links between science (art) and studies	1. Additional supports and further encouragement should be in place for students and teachers to participate in international conferences and publish internationally.
Student admission and support	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. 2. Engagement with the social partners could be extended to promote building engineering systems careers to second level students and hence the Programme.
Teaching and learning, student performance and graduate employment	None.
Teaching staff	1. Teaching staff should be encouraged to be members of international professional associations. 2. Teaching staff should be encouraged and supported to attend conferences and publish scientific papers in international journals outside of Lithuania.
Learning facilities and resources	1. More attention should be paid to the acquisition of the full version of the most advanced software (Revit and BIM) and their implementation in the study process of the civil engineering study field programme and in particular BIM MEP.

Study quality management and public information	1. It is recommended to further involve the social partners (companies) in the study improvement process.

*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

Main positive and negative quality aspects of each evaluation area of the study field of Civil Engineering at Alytus College:

Intended and Achieved Learning Outcomes and Curriculum

The main positive aspects are that the Programme has a good balance between core and elective subjects which produces graduates with competencies and skills relevant to local, regional and national needs. The regular surveys of students and feedback to them and the college's quality management system is appropriate. The main weaknesses include the lack of involvement with European engineering quality educational or professional models/labels and that remote laboratories were not available during the Covid-19 pandemic lockdown.

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 the 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 and related matters is timely, systematic and relevant. The main weaknesses are that there is a need to further encourage and support the mobility of students and teachers and the number of students admitted to the programme each year is low with no students admitted in the 2018 academic year. Engagement with the social partners could be extended to further promote the Programme.

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 and that there is a well organised monitoring system of the student's study progress and feedback is provided to students. The university provides good conditions for socially vulnerable groups and students with special needs to complete their studies. The university is taking sufficient steps to provide graduate career tracking and monitoring of the graduates' employment. There are no serious weaknesses.

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 involved with 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 all students including students with special needs. The laboratories have been renovated providing computerised modern workplaces and a sufficient amount of hardware and software to meet the needs of students and teachers. Facilities are made available by the social partners during internships and for the practical placement elements of the programme. The main weakness is that more attention should be paid to the acquisition of the full version of the most advanced software (Revit and BIM) and their implementation in the study programme, and in particular BIM MEP.

Study Quality Management and Public Information

The main positive aspects are that the social partners participate in the programme implementation and feedback processes and are members of the study programme committee. College's quality management system meets the requirements and system standards and there is a wide range of surveys implemented to ensure students' and employers' satisfaction of the Programme. There are no serious weaknesses, although stakeholders could be further involved in the promotion and improvement of the civil engineering study field programme.

Expert panel signatures:

Dr. Maria Kyne, (panel chairperson), academic