



CENTER FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

**EVALUATION REPORT
STUDY FIELD
MECHANICAL ENGINEERING**

At Vilnius College of Technologies and Design

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Report language – English

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Vilnius
2021

Study Field Data*

Title of the study programme	<i>Engineering of Mechanical Technology</i>
State code	6531EX026
Type of studies	Higher education college studies
Cycle of studies	First
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's Degree in Engineering Sciences
Language of instruction	Lithuanian
Minimum education required	Secondary education
Registration date of the study programme	04-01-2012

* 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 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) *visit of the review team at the higher education institution*; 3) *production of the evaluation report by the review team and its publication*; 4) *follow-up activities*.

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

The study field is **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 is **accredited for 3 years** if one of the evaluation areas was evaluated as “satisfactory” (2 points).

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

1.2. THE REVIEW TEAM

The review team was completed according to the Experts Selection Procedure (hereinafter referred to as the Procedure) approved by the Director of Centre for Quality Assessment in Higher Education on 31 December 2019 [Order No. V-149](#). The Review Visit to HEI was conducted by the team on *December 3, 2020*. Due to the coronavirus pandemic, the Review Visit was organised online using video-conferencing tool (MS Teams).

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1.3. GENERAL INFORMATION

The documentation submitted by the HEI follows the outline recommended by the SKVC. Along with the self-evaluation report and annexes, the following additional documents have been provided by the HEI before and during the site-visit:

No.	Name of the document
1.	Numbers of graduates at study programme <i>Engineering of Mechanical Technology</i> in the last four years
2.	Non-conformities of the internal study quality management system in 2019 and their correction plan (in Lithuanian only)
3.	Study subject descriptors in English

1.4. BACKGROUND OF STUDY FIELD/STUDY FIELD PLACE AND SIGNIFICANCE IN HEI

Vilnius College of Technologies and Design (hereafter – VTDK or College) is a public legal entity and one of the 21 Colleges of Higher Education in Lithuania, offering a total of 16 study programmes in 11 study fields. Six study programmes are carried out at the Technical Faculty (which is the biggest Faculty in VTDK, attracting 37 percent of all students), four study programmes are carried out at the Faculty of Design and five – at the Faculty of Civil Engineering. The governing bodies of VTDK are the Director of the College, the Council of the College and Academic Council. The students are represented by the Students' Union.

Study programme *Engineering of Mechanical Technology* (state code - 6531EX026) (hereafter – EMT, study programme) is the only first cycle study programme in the study field of Mechanical Engineering offered at the Technical faculty of VTDK. Therefore, the Report of Mechanical Engineering study field in VTDK will be exclusively based on this study programme alone, which provides a degree of Professional Bachelor of Engineering Sciences.

According to the senior management and Technical faculty administration staff, the EMT study programme is significant for the College because of its orientation into problem solving by using latest developments not only in technical field but also interdisciplinary, meaning that students from different study fields such as design, electrical engineering and mechanical engineering are involved together in various projects.

The last external evaluation of EMT study programme took place in 2015 by an international review team, which gave a positive evaluation, and upon this a decision for 6 years of accreditation was granted by Centre for Quality assessment in Higher Education (SKVC).

The self-evaluation report (hereafter - SER) for the present evaluation was carried out by a self-evaluation team appointed by the order of the Director. The self-evaluation group consisted of three professors, one student and one social partner and was headed by the Head of the SER group.

II. GENERAL ASSESSMENT

Mechanical Engineering study field and **first cycle** at Vilnius College of Technologies and Design is given **positive** evaluation.

Study field and cycle assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Study aims, outcomes and content	4
2.	Links between science (art) and study activities	3
3.	Student admission and support	3
4.	Studying, student performance and graduate employment	4
5.	Teaching staff	4
6.	Learning facilities and resources	5
7.	Study quality management and publicity	3
	Total:	26

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

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

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

4 (very good) - the field is evaluated very well in the national and international context, without any deficiencies;

5 (exceptional) - the field is exceptionally good in the national and international context/environment.

III. STUDY FIELD ANALYSIS

3.1. STUDY AIMS, OUTCOMES AND CONTENT

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

The aim of the first cycle EMT study programme, as stated in SER, is to “prepare mechanical engineering specialists by providing them with knowledge, abilities and skills required for professional design, solving of professional problems and application of the latest technologies in the field of mechanical engineering” (page 6). It is commonly recognised that skills and human capital have become the core of our economic prosperity and, moreover, the individual and societal progress is increasingly driven by technological advances, and therefore the aim of the Mechanical Engineering study field programme analysed complies to the needs of the society and the labour market. The same description of the aim is available online at the Open Vocational, Information, Counselling and Guidance System (AIKOS). However, looking at the description of the programme on the College website, the aim of the programme is not presented at all for the students enrolled in 2019 and 2020, while for the students enrolled in 2018, for example, the aim is presented in a slightly different manner compared to SER.

Learning outcomes (thereafter LO) correspond to the needs of the society and labour market as they take into account global and national strategic documents (such as *European Industrial Strategy* or *Human Capital in Lithuania in 2019*) as well as field-related surveys and analysis (for example, *Invest in Lithuania PI*).

(2) Expert judgement/indicator analysis

The aims and outcomes of the Mechanical Engineering study field and first cycle EMT study programme are well structured and conform to the needs of the society and 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

VTDK is a public higher education institution providing first cycle college study programmes focused on professional activities in the fields of Technology and Design. The College aims “to create conditions for a person to acquire qualifications based on applied research and/or applied scientific activities” (SER, page 4). The mission of VTDK in SER, page 6, is described as follows: “Vilnius College of Technologies and Design is your partner in the creation of sustainable society. We train responsible specialists, members of sustainable society in the fields of engineering and design. We make research and technological development results accessible and useful to the general public and business”. SER also provides one of the goals of the College: “To create conditions for a person to acquire high quality college education that

meets the needs of the Lithuanian economy and the society, and that corresponds to the level of science and the latest technologies" (page 6).

Vision and mission of the College are also presented at their web site. The connection between them and the aims and outcomes of the first cycle EMT study programme in the Mechanical Engineering study field can be confirmed.

(2) Expert judgement/indicator analysis

The Mechanical engineering study field and cycle study programme aims and outcomes conform with the mission, vision and objectives of VTDK.

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

(1) Factual situation

The design of the EMT study programme meets the requirements of *Description of Study Cycles* (Order No. V-1012 of the Minister of Education and Science of the Republic of Lithuania, 2015), *General Requirements for the Conduction of Studies* (Order No. V-1168 of the Minister of Education and Science of the Republic of Lithuania, 2015), and the *Descriptor of the Study Field of Engineering* (Order No. V-964 of the Minister of Education and Science of the Republic of Lithuania, 2016).

The scope of the study programme is 180 ECTS and it is offered in full-time mode (3 years of study) and also in part-time mode (4 years of study). The decision to offer part-time study mode was related to the need on the market as explained by the staff responsible for preparation of SER during the site visit. Both full-time and part-time study programmes, according to SER (page 6), share the same LO, volume of ECTS and volume of contact work hours. After completing the EMT study programme students receive a diploma of Professional Bachelor's degree of Engineering Sciences.

The curriculum of EMT study programme is designed in the way to help students learn the subjects consecutively and gradually achieve LO. The structure of the study programme is divided in three groups: general college study subjects, study field subjects and special study subjects. The curriculum is suitable for the level that is expected from a Professional Bachelors programme. A combination of lectures, tutorials, seminars and practical work is used in delivering the study programme.

(2) Expert judgement/indicator analysis

The EMT study programme of Mechanical engineering study field complies with all legal requirements.

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

The Descriptor of the study field of Engineering is the main document describing the aims, levels of achieved LO and teaching/learning as well as assessment methods for the college study programmes. The EMT study programme delivered at VTDK targets the application of science knowledge and technologies as well as implementation of projects and management of technological processes rather than the development of new knowledge, technologies or design. The aims and LO of the EMT study programme are built to encompass all study areas in terms of knowledge and its application: to solve engineering tasks, to perform engineering

analysis and applied research, to implement design works of the engineering study field and to develop personal and social abilities needed for professional growth. It has been clear for the review team from the SER and site visit that the lecturers of the EMT study programme follow the research results and labour market needs.

Teaching and learning methods are regularly reviewed to ensure the inclusion of recent achievements of mechanical engineering science. The system of assessment of students' achievements is clearly documented and allows VTDK to make sure that students have achieved the LO. The results of every subject reflect the outcomes of the whole study programme.

Different formats of teaching methods are presented for students of EMT study programme: lectures, laboratory work, seminar, practical training, etc. Examinations, projects, tests, reports, presentations of individual work, etc. are used as assessment methods in 10 point scale in Mechanical engineering study field programme and are appropriate for the professional bachelor degree provided.

Therefore, it can be concluded by the Expert Team that the aims, LO, teaching and learning as well as assessment methods are clearly defined in the regulatory documents and correspond to the requirements for the professional bachelor degree in Mechanical engineering field.

(2) Expert judgement/indicator analysis

Aims, LO and teaching/learning as well as assessment methods of the study programme analysed are compatible with the requirements for the first cycle college studies of Mechanical Engineering study field.

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 structure of the EMT study programme in full-time and part-time modes is presented in SER, Annex 1, and consists of general college study subjects (15 ECTS), subjects of study fields (135 ECTS), and special study subjects (30 ECTS). The structure of Mechanical Engineering study field programme complies with all legal requirements for the first cycle study programmes (*Description of Study Cycles, General Requirements for the Conduction of Studies, Descriptor of the Study Field of Engineering*).

It has been noticed by the review team that *Welding Technology* is an elective subject, although it is very important for future mechanical engineers. Different stakeholders share the opinion that it would be better for all students on the EMT study programme to take the welding course. Thus, the review team suggests making this change in the programme structure by substituting *Law*, which is currently a compulsory subject, but the important parts of it could be integrated into some other subjects (for example, *Sustainable Environment and Occupational Safety, Project Management*).

The review team received positive feedback regarding the study subjects taught in the study programme during the meetings with students. Alumni felt that they have not had problems applying the knowledge received during their studies in their working environment. This is recognised as an evidence of how the curriculum enhances the students' ability to apply their knowledge and understanding to analysing engineering products, processes and methods.

(2) Expert judgement/indicator analysis

The totality of the field and cycle study programme subjects ensures the systematic delivery of knowledge and skills. However, it would be suggested to change *Welding* from elective to mandatory subject (perhaps instead of *Law* that could be integrated into some other subjects).

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

While every degree programme has specific requirements, the possibility to personalise the structure of the study plan allows students to receive knowledge outside their main area of focus. By exploring elective options, students adapt the study programme to their preferences and therefore gain a new perspective. Students of Mechanical Engineering study field at VTDK can choose between various optional courses from special study subjects in the second and third year of study. In addition to that, some level of personalisation of the study plan is possible even in the first study year, where the students can choose one of the general study subjects that are offered as alternatives: *Sociology*, *Psychology* and *Sustainable Development*.

VTDK provides another possibility for students who want to deepen their knowledge: they can choose subjects from other study programmes, but due to the complexity of engineering studies they can only do that after graduating from College (SER, page 9). However, during the interview, neither students nor graduates of the EMT study programme were aware of this possibility.

(2) Expert judgement/indicator analysis

There are opportunities for students to personalise the structure of Mechanical Engineering field study programme by choosing various optional courses throughout the study years.

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

(1) Factual situation

The first cycle EMT study programme is completed by the public defence of a final thesis as described in the *Descriptor of the Study Field of Engineering and Description of the Procedure for Preparation, Grading and Storage of Theses* (Order No. 14-5 of the Academic Council of 4 December 2018). The final theses are being evaluated by the Qualification Commission consisting of at least five persons, out of whom at least one is College lecturer responsible for the implementation of the study programme and half of whom are representatives of social partners (SER, page 9). Out of those social partners, one is being appointed as a chairperson, who was confirmed by the representative of social partners in the commission for the self-evaluation. In a later interview with teaching staff it was mentioned that this constitution of the commission for evaluating the final thesis may vary according to the practical/theoretical nature of the thesis.

Topics of the final theses originate mainly from real-life industrial problems and are indeed very practically oriented. The review team assesses them as appropriate for the first cycle professional bachelor's degree. Moreover, the quality of the theses that were on disposal to be reviewed by the review team was very good, while the volume of them even seems to be a bit too big (from some 60 to more than 120 pages). During the interviews, the students as well as social partners expressed their feeling that there is not enough time dedicated in the study programme to produce the final thesis in present form. It means that the time (ECTS)

dedicated to the thesis does not reflect the time that the students invest to produce such a thesis.

(2) Expert judgement/indicator analysis

The final theses comply with the Mechanical Engineering field and first cycle professional bachelor degree requirements and they are mainly oriented to solving practical industrial problems. However, the scope of the final theses should be limited to a reasonable number of pages.

Recommendations for this evaluation area: see recommendations No. 1 to 3 in the Recommendations section of this report.

3.2. LINKS BETWEEN SCIENCE (ART) AND STUDY ACTIVITIES

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 steady increase in science-related requirements in the area of skilled mechanical engineering workforce is influencing worldwide the discourse on shaping professionalization. The mechanical engineering industry is important for the Lithuanian economy, and the rapidly changing competition calls for close collaboration with higher education and research. The timeliness and quality should be cornerstones of state-of-the-art engineering education.

Each year VTDK receives funding from the state based on the results of the research, experimental development and artistic work and performs commissioned applied research and consulting activities.

In 2017 a Science Foundation was established in the College in order to encourage lecturers and students to carry out applied scientific or artistic activities. As stated in SER, page 11, during the evaluation period, lecturers from the Mechanical Engineering study field have received 12.000 EUR (from the 50.000 EUR allocated in total) as promotion for their applied research and experimental development work.

In SER (page 12) VTDK claims that the scientific activities are also carried out with external partners, however the Table 2 of external partners provided covers only activities with other higher education institutions. It also seems that the research activities in the Mechanical Engineering study field are implemented mainly by one lecturer (4 out of 5 cooperation activities mentioned in Table 2, SER page 12) which makes an unproportioned distribution of scientific activities among the teaching staff of the Mechanical Engineering study field at the College.

While basic scientific research is not to be anticipated to a greater extent at this level of higher education, the review team has got an impression that the laboratory equipment available at the College has a great potential for more extensive applied research activities. Actually, one of the representatives of the social partners mentioned that his company was offered to use the laboratory equipment at the College, but the company did not respond to this offer yet.

(2) Expert judgement/indicator analysis

The amount of applied science activities implemented by VTDK related to Mechanical Engineering field of study is sufficient. However, the laboratory equipment could also be used for industry projects and not only for teaching.

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 knowledge about the latest developments in science and technology is gathered and introduced to the EMT study programme in several ways. Lecturers participate in various conferences and events (for example, annual training by *Abplanalp Engineering* and other partners) and carry out research themselves. Occasional lectures provided to students by business representatives (SER, page 20) also bring a valuable insight of the latest achievements in the mechanical engineering field. Social partners are also supposed to provide their feedback and recommendations for improving the study programme. However, during the interview, the representatives of social partners and graduates could not refer to any annual meeting or other systematic collection of their opinion (with the exception of one representative of the employers, who mentioned one invitation to a round table discussion some two years ago). The review team can conclude that collection of social partners' feedback does not take place often enough and certainly not systematically enough.

Despite the fact that the opinion of the social partners and graduates is collected only sporadically, the content of the EMT study programme is revised and updated on a regular basis. New subjects such as *Project Management, Sustainable Development, Innovative Technologies, Quality Assurance and Management, Repair Technologies, Diagnostics and Monitoring* were included in the EMT study programme recently to address the latest scientific and technological achievements (for example, Industry 4.0).

(2) Expert judgement/indicator analysis

As the main focus area of the EMT study programme is Manufacturing technology, it can be concluded that the content of the study programme corresponds to the latest developments in science and technology of Mechanical Engineering study field. In addition, it would be beneficial to invite more social partners from industry to share their experience with the students and to provide lectures.

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

Students must be actively engaged in their surroundings in order to learn and grow and one of the experiences, which promote their academic reinforcement, is being involved in applied research activities within their study programme. VTDK includes students in several ways to help them implement their innovative ideas and develop creative thinking: students perform research individually or together with lecturers, participate in experimental development projects. SER, page 13, states that "students of the study field of *Mechanical Engineering* individually and together with lecturers conducted various researches of the study field of *Mechanical Engineering* and presented their results in 16 scientific presentations at various student scientific practical conferences at VTDK".

A numerous student experimental development projects are in place at the College. Some of them are carried out together with students of Rene 1 University (France), as for example,

"Development of a Robot Manipulator with a Classic 5th Degree of Freedom", "ECO – creation of a marathon formula", etc. During the evaluation, the review team was acquainted with several ongoing student projects presented in a real-life video (due to the fact that the visit was conducted in virtual environment on distance). The presented projects, such as *Formula Student*, *Electric Kart* and *Electric Scooter*, are interdisciplinary, including not only EMT study programme students, but also students from other study programmes and fields. This gives the additional dimension to these projects, which is beneficial to all the students participating.

(2) Expert judgement/indicator analysis

Students of EMT study programme are encouraged and participate in applied science activities at VTDK such as perform research individually or with lecturers, take part in experimental development projects.

Recommendations for this evaluation area: see recommendations No. 4 and 5 in the Recommendations section of this report.

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

Students' admission to higher education institutions in Lithuania is regulated by the *Law on Higher Education and Research* (No.XI-242, April 30, 2009) and is carried out through the Lithuanian Higher Education Association's general admission information system (LAMA BPO). Applicants are admitted to the EMT study programme following students' admission rules approved by the Order of the Republic of Lithuania Minister of Education and Science (No. SR-40-11-501, September 14, 2006).

There are state-funded and non-funded places available for the Mechanical Engineering study field programmes at VTDK and the most important admission criteria is the competitive score, calculated considering the information presented in the document on completing secondary education and grade score of maturity examinations. Additional points are added to the students for, as an example, their sports achievements, 1st, 2nd or 3rd places at student Olympiads and those who have various voluntary, military or professional experiences.

The admission score for applying to the EMT study programme has increased over the years: the minimum score in 2017 was 1.6, in 2018 – 2.0 and in 2019 – 4.3. All the information about the admission procedure, composition of competitive score, legal regulations and price for the studies is available online at the College website, provided during the annual exhibition *Studijos* and in several publications, such as *Kur stoti, Kuo būti*.

The number of students who have signed agreements to study at the EMT study programme has been stable (53 in 2017, 51 in 2018) while in 2019 it has decreased to 31. According to the College (SER, page 16), this is a consequence of the demographic situation in the country and changed requirements for applicants set by the state. The relationship between the numbers of full-time and part-time students is varying, yet on the long term they are quite balanced. Therefore, it can be concluded by the review team that the process of student selection and admission is suitable and publicly available.

(2) Expert judgement/indicator analysis

Student selection and admission criteria are clear and publicly available in various forms: online at the College website, at the annual exhibition for studies and in several publications. However, due to the decreasing numbers of students the promotion of EMT study programme should be further improved, also to foreign students.

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

All students who have studied in another higher education institution in Lithuania or abroad, gained competences through non-formal or informal learning are entitled to recognition of their qualification in order to continue their studies at the College. The recognition is implemented according to the orders of Academic council (*Description of the Procedure for Crediting Study Results*, Order No. 14-1, January 30, 2015 and *Procedure for the Assessment of Non-Formal Learning Achievements and the Recognition of Competencies*, Order No. 14-1, January 31, 2013).

According to the students and graduates who were using the mobility scheme, no formal problems were detected in the procedure of recognition of the results of their study abroad.

(2) Expert judgement/indicator analysis

The procedure of recognition of foreign qualifications, partial studies and prior non-formal and informal learning is in place and documented properly by the orders of Academic Council.

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

(1) Factual situation

International partnerships and cooperation with foreign higher education institutions are established and appreciated by all involved. The mobility of students is supported and promoted by conducting informative meetings, including students who have been involved in mobility programmes and want to share their experience. Moreover, individual consultations by International Relations Coordinator for those who are interested in mobility programs is provided (SER, page 17) ensuring that the students receive all necessary support for studies or internships abroad. According to the students and graduates who were actually using the mobility scheme during their studies, courses studied at foreign institutions are acknowledged after the students come back without any difficulties. This ensures that all exchange studies are made part of the degree.

During the assessment period, 12 students of Mechanical Engineering study field have participated in *Erasmus+* mobility programs: 6 went for part-time studies and 6 for internships. The level of international mobility of the students is gradually increasing; however, there is still space for improvement. The reasons for students not deciding to go abroad (employment, family, etc.) must be further explored and the promotion/support of mobility adapted accordingly.

VTDK does not provide the information about the numbers of students coming for part-time or even full-time studies from abroad. According to SER (page 29), HEI is aware that these numbers should be increased and is taking actions to improve current situation.

(2) Expert judgement/indicator analysis

Academic mobility of students is supported and promoted, however more actions need to be taken as the numbers of incoming and outgoing students could be higher.

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

As described in the SER and verified during the interviews, VTDK offers suitable and adequate support services for the students. The support for academic issues is achieved through consultations offered by lecturers (for example, consultations for Mathematics and Physics are organised during the first year of studies) and using various channels (individual approach, *Moodle* or *Microsoft Teams* environment), also by providing possibility to meet representatives of companies on Career days. The students appear to have a number of opportunities to give feedback to their tutors and to obtain assistance when required. The students that were interviewed were satisfied with the overall support that was available to them during their time at VTDK. The teachers are approachable and are willing to provide help on students' initiative.

The social and financial support is organised by providing various possibilities to receive social scholarships for study results, state-supported loans to pay the tuition fee and cover living expenses and/or financial support from social partners. In 2017-2019, for example, social scholarships were received by all students in the study field of Mechanical engineering and 71 full-time students have received incentive scholarships for their learning achievements.

As it was learned during the visit, the teacher of the *Psychology* subject provides basic psychological support to the students if needed.

Also, an individual study plan can be offered as a personal support for the students of later courses who cannot follow with the study schedule due to commitment at work. Students can also ask for academic break.

(2) Expert judgement/indicator analysis

VTDK provides suitable and sufficient academic, financial, social, psychological and personal support for the Mechanical Engineering study field students from what it has been seen in the documents and during the online meetings.

3.3.5. Evaluation of the sufficiency of study information and student counselling.

(1) Factual situation

Information about the studies is available for students in various ways: online at the College website, sent by emails to the group and presented during the lecture *Introduction to studies*. As discussed before in this report, students receive appropriate support for academic, financial, social and personal issues. An approved consultation schedule is available for the students in order to help them with various challenges, as for example, prepare for midterm or final exams, independent work, etc.

Some inconsistency exists as regards the description of LO of the EMT study programme in various documents. There is a list of 21 LO provided in SER, Annex 3, but only 13, described in a different manner, available on VTDK website. The Open Vocational, Information, Counselling and Guidance System (AIKOS) offers yet another, however the most precise, list of 20 LO as they correspond to the descriptors of European Qualifications Framework for Lifelong

Learning and are divided by structure to: knowledge and its application, research skills, special skills, social skills and personal skills. Evaluating LO based on this structure it can be concluded that they are understandable, precise and assessable. LO describe exactly which theories students should know, how deeply they should understand them and what they can do with that understanding (for example, students will be “able to apply knowledge and understanding in the analysis of engineering tasks and choose appropriate methods, experimental, laboratory and industrial equipment in order to solve these tasks”).

(2) Expert judgement/indicator analysis

Information about the studies is mainly presented online and during the first lecture, allowing the students to receive all the help they need for various socio-economical or learning related issues. However, the information about the study programme goals and LO needs to be unified in both Lithuanian and English websites of the College.

Recommendations for this evaluation area: see recommendations No. 6 and 7 in the Recommendations section of this report.

3.4. STUDYING, 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

Higher education institutions are student-driven entities and are obliged to identify and satisfy their learning needs in order to succeed. The teaching and learning process at VTDK is organised taking into account the different preferences of its students. For example, both full-time and part-time studies are available allowing the students to choose the most suitable intensity. The graduates also have an opportunity to continue their studies. For example, according to the agreement between both HEIs the graduates of the EMT study programme can continue their studies at master level at Vilnius Gediminas Technical University.

The study process at VTDK includes various techniques to achieve the intended learning outcomes of the EMT study programme. For example, studies are based on teaching and learning held in auditoriums or remotely, including independent and practical work (seminars, simulations, etc.) and different assessment methods (examination, reports, presentations, etc.). Students are being acquainted with the syllabus of the subjects, intended learning outcomes, planned interim and final examinations as well as evaluation criteria during the first lecture.

Students at VTDK can express their opinion and satisfaction of their studies by fulfilling various questionnaires throughout the study year. The results of these surveys are then used to improve the study programme. Based on responses during the visit the review team can confirm that the students' voice is heard and has a positive effect on the study programme.

(2) Expert judgement/indicator analysis

Teaching and learning process at VTDK and at Mechanical Engineering study field programme is organised taking into account the needs of students and allows them to achieve the intended learning outcomes. Students can choose full-time or part-time studies; the curriculum is up to date and includes variety of teaching and assessment methods.

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

(1) Factual situation

Students as partners in developing and delivering quality education may undergo multiple challenges with accessing learning opportunities or face no difficulties at all. They all come with different backgrounds and experience (for example, students from lower socio-economic groups, disabled, mature or having specific learning difficulties) and it is beneficial to create equal conditions for them to study and learn.

VTDK provides various help for socially vulnerable students and students with special needs: individual study plans and consultations (through e-mail, *Moodle*, *Microsoft Teams* or tête-à-tête) are available, flexible forms of achievement evaluation are employed (for example, the font of the text is enlarged, time for examination is extended). Faculty administration informs every subject teacher about students with special needs before the first lecture and ensures that they receive appropriate help and support.

The facilities of VTDK are designed in a proper way to meet the needs of disabled students: sloping corridors are available, doors are wide enough and there is a sufficient number of elevators and rest rooms. A special *Procedure for Providing Financial Assistance Measures to the Disabled* (Order No. 14-3, March 27, 2019 and updated Order No. 14-2, March 12, 2020) is established and offers financial support for disabled students.

(2) Expert judgement/indicator analysis

Students with special needs and socially vulnerable students receive efficient help and support at VTDK through consultations, individual study plans and suitably designed facilities.

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

The monitoring of students' study progress is a practice that can be used to assist lecturers in using student data to continually assess the effectiveness of their teaching and to determine if students reach the established learning outcomes. Also, it is a tool to make informed decisions about the necessary improvements of the study programme and to provide accountability evidence to stakeholders.

At VTDK, students' study progress is monitored at individual, department and faculty levels. Students' knowledge is assessed throughout the semester and consists of intermediate results and final examination results. SER, page 22, states that after each session and at the end of a study year, the summary of each group of students' study progress is prepared. These summaries and learning outcomes are then discussed and analysed at the department and Study Program Committee meetings and publicised at faculty community meetings. The Study Program Committee/lecturers take necessary measures to solve problematic issues based on the results of the study programme monitoring process, such as for example, to provide additional consultations for students.

(2) Expert judgement/indicator analysis

Student study progress is monitored systematically at individual, department and faculty levels and the feedback is provided properly, giving the opportunity for self-assessment and planning of study progress.

3.4.4. Evaluation of the feedback provided to students in the course of the studies to promote self-assessment and subsequent planning of study progress.

(1) Factual situation

Providing feedback to students' performance may help them to reflect about their competences and learning strategies in order to solve given tasks. At the EMT study programme the students receive feedback on their learning outcomes after each assessment (exam, report, seminar work, etc.), which is presented individually or in groups (in case of group works). At the end of each subject, the students are also asked to participate in an anonymous survey and the results of such surveys are provided to the students participating in the survey no later than in two months. The dean of the faculty presents the students' survey results to every lecturer individually during an interview once a year.

(2) Expert judgement/indicator analysis

The feedback provided to students is systematic and efficient to promote self-assessment and subsequent planning of study progress.

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

(1) Factual situation

Europe is moving towards a high-skilled economy and its success depends on having effective transition from education and learning to employment. According to the annual report of 2019, available at Colleges' website, only 60,04 percent of students have graduated from the College compared to the number of admitted students. The graduation rate at the Technical Faculty was 60,43 percent of students admitted in 2019 and it is the second worse number compared to other faculties at the College (the graduation rate at Civil Engineering faculty was 44,9 percent). Considering the fact that the admission score is increasing and the number of enrolled students decreased, some 40 percent dropout rate is considered too high, especially because there is a high correspondence between the study programme and the needs of the local industry.

VTDK tracks the employability of its graduates using several sources: Employment Service under the Ministry of Social Security and Labour of Lithuania, College Career Centre, internal surveys conducted by Study Programme Committees, Career Management Information System (KVIS), which was established by Lithuanian higher education institutions.

The quality of professional readiness of the graduates is demonstrated by their satisfaction with the achieved learning outcomes and acquired competencies. After the interview with the employers, the expert panel can confirm that they share the same opinion.

The numbers of graduates at EMT study programme and those being employed vary throughout the years. For example, 42 students have graduated from the EMT study programme in 2017, 47 students in 2018 and 36 students in 2019. According to the data of STRATA (Government Centre for Strategic Analysis), 42 graduates of the EMT study programme were employed in 2017, 44 graduates were employed in 2018, and 33 in 2019. These numbers clearly show that graduates of the EMT study programme do not have problems to get a job within their profession. Actually, the demand on the labour market is higher than the number of graduates all HEIs in this field can provide.

(2) Expert judgement/indicator analysis

The employability rate of the graduates of EMT study programme is very high as almost all of them find a job immediately after studies. VTDK collects information and tracks the career of

its graduates using Lithuanian Employment Service and College Career Center and surveys are being made by Study Programme Committees.

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

(1) Factual situation

The College implements policies of academic integrity and tolerance and stands against any discriminatory practices. All groups (administration, teaching staff, students) operate under various related documents, such as *Study Regulations*, *Code of Academic Ethics of Vilnius College of Technologies and Design*, *Ethics Committee Activities Regulations*, and *Description of Procedures for Prevention of Harassment, Sexual Harassment, or Persecution*. To ensure academic integrity "students in the field of study sign a declaration of integrity at the beginning of their studies, thus declaring the honest performance of academic work" (SER, page 24). During the assessment period, there were no cases of violations of the Code of Academic Ethics in the study field of *Mechanical Engineering*.

(2) Expert judgement/indicator analysis

Academic integrity and tolerance is an important feature of academic life in VTDK and the College upholds the standards of conduct through various documents and procedures related to all parties involved.

3.4.7. 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

In March 2020 the College issued a *Description of the Procedure for Submission and Examination of Appeals of the College's Students Regarding the Evaluation of Knowledge and Procedural Violations*, which allows students to request for a review of a decision of their evaluation grade or evaluation procedure. Within the period evaluated there were no cases of appeals in Mechanical Engineering study field programmes. At the interview with the students, the review team was told that in such cases the students usually contact the teacher directly.

(2) Expert judgement/indicator analysis

The procedure of submitting appeals and complaints and their examination is clearly presented in Mechanical Engineering field studies.

Recommendations for this evaluation area: see recommendation No. 8 in the Recommendations section of this report.

3.5. TEACHING STAFF

Study field teaching 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

The number of lecturers at the Mechanical engineering study field programme varies each year and was 24 in 2019 and 25 in 2018. Approximately 20% of them hold doctoral degrees. The remaining staff holds at least the master degree as required by the law. 22 out of 24 lecturers teaching subjects of the study field are working at least half time and for not less than 3 years (SER, table 7) and out of these 22 there are 9 lecturers with full-time positions at VTDK (Annex No. 4).

The proportion of study field subjects given by lecturers with PhD is sufficient and fully covers the requirement for lectures to be delivered by staff with doctorate qualification (minimum requirement – 10%). There are also two lecturers studying in doctoral studies at the time of evaluation.

The students-staff ratio is appropriate and consists of one lecturer for 5,21 students (SER, Table 6), which is in line with the requirements of Methodology for Evaluation of Actual Resources of a Higher Education Institution (no more than 20 students per lecturer). On the other hand, the value of this ratio is also a consequence of the lower number of students enrolled, and is thus currently less cost efficient.

The dynamics of teaching staff turnover in Mechanical Engineering field studies at VTDK is well balanced and all retiring staff is being substituted by new members smoothly, sharing between each other all the necessary information about content of the subject, practical tasks and evaluation methods. New lecturers are being introduced with the general procedures of the College and even receive a mentor (another lecturer) for help and support.

During the site visit, the teaching staff was found to be very dedicated to the education of their students and proved to hold a high level of scientific knowledge. Teaching staff was clearly able to answer questions as regards their students, the programme itself and the employment of their graduates.

The students and graduates the review team have spoken to were positive about the engagement with their lecturers in terms of teaching and learning as well as support provided. The students also have expressed their appreciation of visiting lecturers which gave practical insights on the subjects such as "*Improvement of Interdisciplinary Relations in Applied, Research, Practical Works and Papers*" or "*Occupational Health and Safety at Work*".

(2) Expert judgement/indicator analysis

Lecturers have a proper education, competence and motivation to deliver the study programme successfully. The number and qualification of lecturers as well as their competence is appropriate for sustainability of the Mechanical Engineering field studies.

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

There are many benefits of participation in academic mobility programs: developing new skills and capabilities, research/funding collaboration, self-enhancement, networking or breaking from routine. Lecturers of the study field of *Mechanical Engineering* at VTDK participate in *Erasmus+* mobility program, attend conferences and seminars, and go for internships.

The number of lecturers participating in the exchange programs and number of visiting lecturers is sufficient for the delivery of study programme, but there is still space for improvements. In the three years period (2017-2019), 8 lecturers from the study field of

Mechanical Engineering have participated in the exchange programs and there were 9 visiting lecturers in the same period.

During the interviews, teaching staff confirmed that the procedures of applying for participation in conferences or internships are clear and easy to follow. Those, who were participating in academic mobility programmes, were happy to improve their knowledge and develop new skills and therefore such examples encourage other team members to take action.

(2) Expert judgement/indicator analysis

Teaching staff has the possibilities and are encouraged to participate in international mobility programs, internships and attend conferences, however the level of these activities should be improved.

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

(1) Factual situation

Only recently, the *Description of the Procedure for the Improvement of Lecturers' Pedagogical Competencies* was introduced at the College (Order No. 14-1 of the Academic Council, January 17, 2020) which regulates the aims, tasks, forms, planning and organisation of the College lecturers' qualification improvement. Lecturers improve their qualifications in various ways, from participating in courses, seminars, conferences, internships, etc., to various mobility programs and also while studying for a master's or doctoral degree. At the interview, their use of English language was on the satisfactory level.

During the interviews the teaching staff were very positive not only about the possibility to participate in Erasmus+ study programme, but also with cooperation with other higher education institutions, organisations and companies on the development of applied scientific and project activities which allowed to improve the competences of all participants.

(2) Expert judgement/indicator analysis

Teaching staff members are encouraged and take part in continued professional development through internships, courses, conferences, mobility programs, etc. which is sufficient for successful implementation of Mechanical Engineering field study programme.

Recommendations for this evaluation area: see recommendation No. 9 in the Recommendations section of this report.

3.6. LEARNING FACILITIES AND RESOURCES

Study field learning facilities and resources shall 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 Mechanical Engineering study field programme is carried out at the Technical Faculty (Olandų str. 16, Vilnius) in 16 lecture rooms and 18 laboratories. As the evaluation was carried out remotely, a personal tour of the premises was not possible. Yet, the College provided the panel with a proper insight into the premises and available equipment through

an interesting video presentation. In 2014, the building of the Technical Faculty was completely renovated by the EU Structural Funds. As the last evaluation was carried out in 2015, after the renovation was concluded, the panel decided that a personal tour of domestic experts was not needed.

The premises (lecture halls, seminar rooms, gym) are modern, equipped and suitable for carrying out the study process. The same applies to the library, which is adequately stocked with study literature (most textbooks are in Lithuanian) and also offers access to relevant electronic databases. Reading room equipped with computers is available for the students and lecturers.

The whole building is adapted for the study and independent work of persons with mobility impairments. According to the SER (page 31) the students with other special needs (hearing, vision, dyslexia ...) are also treated properly, although during the assessment period, students with special needs did not study in the field of Mechanical Engineering.

The laboratories are equipped with adequate necessary equipment to conduct basic practical exercises in the Mechanical Engineering study field. Due to the fact that the study programme is oriented in manufacturing technology, more advanced technology related equipment related to the emerging Industry 4.0 paradigm, such as CNC machines (Haas), experimental robot, and 3D printers are also on disposal. Taking into account the recommendations from the last external evaluation in 2015 some new laboratories (Pneumatics, Automation, and Mechatronics) were equipped with modern equipment.

Computer hardware and software (Autodesk Inventor, SolidWorks) equipment is appropriate. Electronic studying environment Moodle is also used providing the students the access to the material created by the lecturer remotely.

Training practices take place in the laboratories of the Technical Faculty, which have a sufficient number of internship spots. Technological practices are conducted in college laboratories, while industrial and final practices are conducted in companies of the manufacturing sector, which apply the latest technological process management methods, use modern technologies and the most advanced equipment.

VTDK library contains about 1.000 methodological resources of different names that are relevant to the field of study of Mechanical Engineering, 139 titles of which have been published not earlier than in 2015. The collection of relevant publications is annually supplemented with both Lithuanian and foreign methodological resources. Students and lecturers can access the electronic resources subscribed to by the College Library from computers in the College Reading Room or by accessing them remotely

(2) Expert judgement/indicator analysis

The premises (lecture halls, seminar rooms, and gym), library and associated equipment are very good and surely sufficient to accomplish the study programme outcomes and ensure an effective learning process. Laboratory equipment is being constantly updated and new investments in the equipment are planned by using EU structural funds. The base for practice outside the HEI used for the implementation of the studies is also adequate. The whole review team share the opinion that the learning facilities and resources VTDK is operating with and the way in which they are constantly improved are exceptional for college type institution.

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

(1) Factual situation

Each calendar year, a plan for the acquisition or renewal of laboratory equipment required for the conduction of studies is drawn up. The plan provides specific measures and funds for their acquisition. Social partners also provide important assistance by donating some tools and material or providing discounts for the purchase of these goods necessary for studies and research.

A substantial sum of 160.000 EUR is allocated to the College to renew the study and applied research infrastructure for the study programme of the Mechanical Engineering study field by the end of July 2021. These funds are provided within the project implemented by Kaunas Technical College. VTDK joined that project as a partner at the end of 2019. CNC laser cutter, coordinate measuring machine and another 3D printer are planned to be acquired using these funds.

(2) Expert judgement/indicator analysis

The resources needed to carry out the Mechanical Engineering field studies are being planned annually by VTDK and funds are allocated for various upgrades of study and research infrastructure.

Recommendations for this evaluation area: none.

3.7. STUDY QUALITY MANAGEMENT AND PUBLICITY

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 quality of study programmes at VTDK is ensured by decisions of Academic Council, Study Programme Committees and departments. The Study Programme Committee is responsible for the compliance of the content of the EMT study programme with the legal requirements as well as market needs. The initiatives of changes and updates are coordinated with the head of the department, the dean and the Faculty Council before being suggested to the Academic Council for the final approval/disapproval. The Study Programme Committee meets regularly (at least once per year) and involves representatives of the companies from the mechanical engineering study field and is therefore able to take into account the current needs of the industry

The internal quality of the studies is ensured through the control, analysis and evaluation of the study field programme from different aspects. In order to analyse study quality indicators, different tools (from statistics, surveys and student evaluations to round table discussions) are used at different levels (Study Program Committee, departments, dean, Academic Council).

Students express their opinion about the study programmes of the study field, their implementation and updating through the representatives of the student representation in the Study Programme Committees, the Faculty Council and the Academic Council. Considering the feedback of the students at the interview with them, it is clear that their comments in these bodies are respected. However, it is not clear how they collect the voice of other students, which they are representing, as it seems that most of the students do not even know who their representatives are.

(2) Expert judgement/indicator analysis

The internal quality assurance system of the studies is in place and is being implemented in various levels at the College. Student's representatives are active in all management bodies, however it was not clear how they communicate and collect information from other students.

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

(1) Factual situation

The contribution of stakeholders to the improvement of studies manifests in several aspects, from gathering information through various surveys and at round table discussions (representatives of the employers knew of one organised two years ago) to providing feedback and involving stakeholders into various internal quality assurance activities, such as taking part at conferences organized by the faculty or participate at the defence of the final theses. The involvement of stakeholders, especially collecting feedback from graduates and social partners, could be organised in a more systematic way in order to plan and upgrade the resources for Mechanical Engineering study field programme.

(2) Expert judgement/indicator analysis

Stakeholders provide a valuable contribution to the quality of studies at VTDK and their opinion is collected at various events, round table discussions, etc. However, a more systematic and organised approach towards receiving the feedback from graduates and social partners could be advisable.

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 all relevant information on studies and uses different publication channels, from their web page and social media to the fairs and annual exhibition of the studies. Every year, the faculty organises *Technical Days*, and student national conferences "*Exact Sciences – the Basis for the Studies of a Qualified Engineer*", and "*Technology and Management Innovations*", during which joint projects of students and lecturers are presented. Different reports are also produced. Some of them are publicly available (financial reports) while some others are published only on intranet or even just distributed among those who are directly involved (for example SER). Curriculum of the subjects taught are not presented publicly and thus cannot be seen by the candidates that are considering enrolling into the study programme. Similarly, foreign students (mobility) while preparing their learning agreements can only access the list of subjects offered in English with a very short description of each subject, which is not to be compared with curriculum.

Based on information collected several changes to the study process were made, as presented in SER (pages 36 and 37). A centralised message information system was established to inform the students about changes in the study process (schedules). Several new subjects were introduced taking into account the opinion of different stakeholders (SER, page 37). Subjects *Applied Programmes* and *Computer-Aided Design* supposed to be proposed by social partners, but they did not know anything about it. Similarly, subjects *Interdisciplinary Project* and *Science Workshop Project* supposed to be proposed by graduates, but their representatives at the interview with the review team also did not have any knowledge about it. New subject *Electrical Engineering and Electronics* was proposed by lecturers, while the

syllabus for the subject *Industrial Practice* was updated and the subject was moved to the end of the study year to enable the students to continue working in the company.

(2) Expert judgement/indicator analysis

Information about the Mechanical Engineering field studies is collected and published online at VTDK website, provided at annual exhibitions and fairs. The students are informed on time about the changes in the study process using centralised message system. However, the full curriculum or SER is not available online at VTDK website for all who would be interested. Also it is not clear who really proposes changes in curriculum as neither the graduates nor social partners didn't seem to know anything about that.

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

Student surveys are organised twice a year to determine the quality of studies in terms of teaching and professionalism of lecturers, quality of services provided, opportunities for personal development, and assessment of students' achievements. The results of the surveys are analysed in the meetings of the faculty administration and discussed in the Study Programme Committee. Based on these analyses measures are adopted to improve the quality of the study programme. The summarised opinion of the students shows that the quality of studies in the field of *Mechanical Engineering* is constantly monitored and ensured.

(2) Expert judgement/indicator analysis

The opinion of the Mechanical Engineering field study students about the study quality is collected through surveys and later the results discussed with administration, which shows the systematic approach.

Recommendations for this evaluation area: see recommendation No. 10 and 11 in the Recommendations section of this report.

IV. EXAMPLES OF EXCELLENCE

- Some very interesting interdisciplinary student projects are carried out at the College. They are extremely beneficial for the EMT study programme students, as they provide a frame for practical application of the knowledge acquired and some hand on experience. Moreover, cooperation with students from other study fields represents the additional dimension, which is beneficial to all the students participating.
- The material resources including the library are very good for implementing the EMT study programme. Laboratory equipment is being constantly updated. New investments in the equipment are planned by using EU structural funds.

V. RECOMMENDATIONS*

1. In order to present a more coherent and consistent information, it is recommended to unify the presentation of LO in SER, College website and AIKOS.
2. *Welding Technology* should become a mandatory subject (perhaps instead of *Law* that could be integrated into some other subjects).
3. The scope of the final theses should be limited to a certain number of pages.
4. Laboratory equipment should also be used for industry projects and not only for teaching.
5. It would be beneficial to invite more social partners from industry to share their experience with the students and to provide lectures.
6. More attention should be paid to evaluate the reasons for the decrease in student numbers. The promotion of the EMT study program should be further improved, also to foreign students.
7. Explore the reasons why more students do not decide to go abroad and adapt promotion/support of mobility accordingly.
8. Take measures to evaluate the reasons and reduce student dropout rate.
9. The level of international mobility of lecturers (in-coming and out-going) should be further improved.
10. All important information about the EMT study programme needs to be publicly available in both Lithuanian and English language respectively.
11. The collection of the voice of students, graduates and social partners/employers in updating the EMT study programme needs to be upgraded.

*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

The following is a summary of the findings of the review team based on provided Self-Evaluation Report and online interviews with Vilnius College of Technology and Design administration (senior management and faculty administration staff), staff responsible for the preparation of the SER, teaching staff and stakeholders (students, alumni, employers, social partners).

The review team gives a positive evaluation to the implementation of study field Mechanical Engineering and first cycle at Vilnius College of Technology and Design (hereafter – College) with all areas of evaluation assessed as good, very good or exceptional.

The following key strengths are noted by the review team during the evaluation of the Mechanical Engineering field studies:

- The level of commitment by College director, administration staff and lecturers to the institution and Mechanical Engineering field studies is high and emphasizes the motivation for further growth.
- There is a correspondence between the Mechanical Engineering field studies and the needs of the local industry.
- Lecturers have a proper education, competence and motivation to successfully deliver the Mechanical Engineering field studies.
- Students' voices are heard through discussions, feedback and surveys and have a positive effect on the Mechanical Engineering field studies.
- Students and graduates are happy about their studies and are motivated.

The review team would like to highlight the following examples of good practice of the Mechanical Engineering field studies:

- Quite some interesting interdisciplinary student projects are in place and give the students high value hand-on experience.
- The material resources including the library are very good for implementing the Mechanical Engineering field studies.

There are several areas for possible development of the Mechanical Engineering field studies, none of which are critical enough for lower grade of evaluation:

- It would be beneficial to invite more social partners from an industry to share their experience with the students and provide lectures.
- The structure of the study programme *Engineering of Mechanical Technology* is constantly adjusted to meet latest developments. However, it would be suggested to change *Welding* from elective to mandatory subject (perhaps instead of *Law* that could be integrated into some other subjects).
- Learning outcomes are well structured, however the information about the study programme *Engineering of Mechanical Technology* goals and learning outcomes needs to be unified in both Lithuanian and English websites of the College.

- The level of international mobility of lecturers and students has increased; however, there is still space for improvement.
- The quality of the final theses that are mainly related to some practical problems in industrial partners is good. However, a common opinion is that there is not enough time dedicated in the Mechanical Engineering field studies to produce them in the present form. Thus, the scope of the final theses should be limited to a reasonable number of pages.
- More attention should be paid to evaluate the reasons of decrease in student numbers and measures need to be taken in reducing student dropout rate. The promotion of the Mechanical Engineering field studies should be further improved.
- The voice of graduates and social partners/employers in updating the Mechanical Engineering field studies is anticipated, but collecting their feedback needs to be upgraded.

Expert panel signatures:

1. Prof. dr. Oluremi Ayotunde Olatunbosun (**team leader**) *academic*,
2. Prof. dr. Jasmina Casals-Terré, *academic*,
3. Prof. dr. Bojan Dolšak, *academic*,
4. Dr. Vaidas Liesionis, *representative of social partners'*
5. Ms. Erika Tichanovič, *students' representative*.