



CENTRE FOR QUALITY ASSESSMENT IN HIGHER EDUCATION

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**EVALUATION REPORT**

**STUDY FIELD of MEASUREMENT ENGINEERING**

at Kauno miškų ir aplinkos inžinerijos kolegija

**Expert panel:**

1. Prof. dr Krzysztof Czaplewski (panel chairperson), *academic*;
2. Assoc. Prof. dr Peregrina Eloina Coll Aliaga, *academic*;
3. Mr Audrius Petkevičius, *representative of social partners*;
4. Ms Miglė Gervytė, *students' representative*.

Evaluation coordinator – *Ms Miglė Palujanskaitė*

Report language – English

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## Study Field Data

|                                                          |                                                   |
|----------------------------------------------------------|---------------------------------------------------|
| Title of the study programme                             | <b><i>Real Estate Cadastrare Measurements</i></b> |
| State code                                               | 6531EX031                                         |
| Type of studies                                          | Higher education college studies                  |
| Cycle of studies                                         | Bachelor's Degree (1 <sup>st</sup> cycle)         |
| Mode of study and duration (in years)                    | Full-time (3), Part-time (4)                      |
| Credit volume                                            | 180                                               |
| Qualification degree and (or) professional qualification | Bachelor of Surveying Engineering                 |
| Language of instruction                                  | Lithuanian                                        |
| Minimum education required                               | Secondary education                               |
| Registration date of the study programme                 | 2009-06-17                                        |

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# I. INTRODUCTION

## 1.1. BACKGROUND OF THE EVALUATION PROCESS

The evaluations of study fields in Lithuanian Higher Education Institutions (HEIs) are based on the Procedure for the External Evaluation and Accreditation of Studies, Evaluation Areas and Indicators, approved by the Minister of Education, Science and Sport on 17 July 2019, Order No. V-835, and are carried out according to the procedure outlined in the Methodology of External Evaluation of Study Fields approved by the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC) on 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 selfevaluation report (SER) prepared by HEI; 2) site visit of the expert panel to the HEI; 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 is evaluated as satisfactory (2 points).

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

## 1.2. EXPERT PANEL

The expert panel was assigned according to the Experts Selection Procedure as approved by the Director of SKVC on 31 December 2019, [Order No. V-149](#). The site visit to the HEI was conducted by the expert panel on 30 November, 2022.

**Prof. dr Krzysztof Czaplewski (panel chairperson)** *Professor of Gdynia Maritime University, Poland*  
**Assoc. Prof. dr Peregrina Eloina Coll Aliaga**, *Associate Professor in the València University of Technology, Spain*  
**Mr Audrius Petkevičius**, *Head of Real Estate practice, Ellex Valiunas, Lithuania*  
**Ms Miglė Gervytė**, *BSc graduate in Genetics, Vilnius University, Master's degree student, Vilnius University*

## 1.3. GENERAL INFORMATION

The documentation submitted by the HEI follows the outline recommended by SKVC

### 1.4. BACKGROUND OF MEASUREMENT ENGINEERING FIELD STUDIES AT KAUNO MIŠKŲ IR APLINKOS INŽINERIJOS KOLEGIJA

Kauno miškų ir aplinkos inžinerijos kolegija (hereinafter – KMAIK) is a state-owned college offering agricultural and engineering courses. KMAIK has two governing bodies: the KMAIK Council and the Academic Council. KMAIK Council is the college's collegiate governing body. Her interests include: the vision and strategy of the university, financial management of the college, and personnel policy. The academic council is the collegial academic governing body of KMAIK. Her areas of interest include: the didactic process and the implementation of research work as well as the college's quality system. The college is headed by the Director and two deputies. The director and his deputies are appointed by the KMAIK Council. There are two faculties at the college. The assessed field of study is implemented at the Faculty of Environmental Engineering.

Measurement engineering is one of the most important areas of human activity in Lithuania. The regaining of independence by Lithuania, together with the rapid development of technology, resulted in the need for highly qualified engineers who would meet the requirements of the transformation of the Country. Therefore, the college implements numerous national and international research projects supporting the didactic process and meeting the requirements of the labour market. Well-educated engineers quickly find their jobs and the acquired knowledge

allows them to easily adapt to the needs of the country using the latest measurement technologies.

The External evaluation of the Real Estate Cadastral Measurements Study Program was conducted in 2016 year. Due to the change in the names of the fields of study introduced in Lithuania, the field of study in measurement engineering has not yet been assessed.

## II. GENERAL ASSESSMENT

*Real Estate Cadastral Measurements* study field and *first cycle* at Kauno miškų ir aplinkos inžinerijos kolegija is given **positive** evaluation.

*Study field and cycle assessment in points by evaluation areas*

| No. | Evaluation Area                                                    | Evaluation of an Area in points* |
|-----|--------------------------------------------------------------------|----------------------------------|
| 1.  | Intended and achieved learning outcomes and curriculum             | 4                                |
| 2.  | Links between science (art) and studies                            | 4                                |
| 3.  | Student admission and support                                      | 4                                |
| 4.  | Teaching and learning, student performance and graduate employment | 4                                |
| 5.  | Teaching staff                                                     | 3                                |
| 6.  | Learning facilities and resources                                  | 3                                |
| 7.  | Study quality management and public information                    | 4                                |
|     | <b>Total:</b>                                                      | 26                               |

\*1 (unsatisfactory) - the area does not meet the minimum requirements, there are fundamental shortcomings that prevent the implementation of the field studies.

2 (satisfactory) - the area meets the minimum requirements, and there are fundamental shortcomings that need to be eliminated.

3 (good) - the area is being developed systematically, without any fundamental shortcomings.

4 (very good) - the area is evaluated very well in the national context and internationally, without any shortcomings;

5 (excellent) - the area is evaluated exceptionally well in the national context and internationally.

### III. STUDY FIELD ANALYSIS

#### 3.1. INTENDED AND ACHIEVED LEARNING OUTCOMES AND CURRICULUM

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

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

*(1) Factual situation*

The SER justifies well the needs of the labour market for graduates of these studies.

Surveys are conducted by the department to faculty, students, graduates, and employers which help to know the improvement directions of study program and the demand for graduates.

Study program learning outcomes are related to the areas of professional activity and meet the requirements for studies of the first cycle of studies at the college level. Such studies are related to the national and societal needs listed in the State's Long-Term Development Strategy. The increase in highly qualified employees is undoubtedly determined by the impact of the Fourth Industrial Revolution, as it also highlights the demand for specialists capable of working with recent technologies. KMAIK Real Estate Cadastral Measurements study program graduates can work in different companies, companies and organisations that perform cadastral detecting, working in the fields of geodesy and cartography.

KMAIK cooperates with companies, professional associations, national and regional government institutions, etc., working in the field of surveying engineering. KMAIK supplies the aforementioned sector with highly qualified specialists throughout the country.

*(2) Expert judgement/indicator analysis*

During the visit and the meetings with alumni, employers and social agents, it was confirmed that the aims and outcomes of the study programs are in line with the needs of 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.*

The aims and learning outcomes of Real Estate Cadastral Measurements are related to the mission of the College formulated in the KMAIK 2030 Strategy and its strategic objectives. The skills and knowledge acquired provide students with the possibility of developing a creative, responsible personality and capable of fluent communication.

The HEI offers mobility and further study possibilities and ensures the successful integration of graduates into the labour market.

#### *(2) Expert judgement/indicator analysis*

Aims and outcomes of field study programmes are perfectly in line with the mission, objectives of activities and strategy of the KMAIK.

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

#### *(1) Factual situation.*

The study plan of KMAIK is implemented according to the Lithuanian system of study fields approved by LR Government. It has 180 ECTS credits.

The curriculum design has been planned regarding aims, anticipated learning outcomes and target competences. The optimum number of credits is attributed for every study subject essential to reach the learning outcomes. The number of credits depends on students' workload, which encompasses all learning activities (lectures, seminars, projects, individual assignments, preparation for assessment, assessment as exam).

The SER justifies the legal framework that regulates the academic and professional requirements for Surveying Engineering.

**Table No. 1** Real Estate Cadastral Measurement Study programme compliance to general requirements for first cycle study programmes of College level (professional bachelor)

| <b>Criteria</b>                                           | <b>General* legal requirements</b>      | <b>In the Programmes</b> |
|-----------------------------------------------------------|-----------------------------------------|--------------------------|
| Scope of the programme in ECTS                            | 180, 210 or 240 ECTS                    | 180                      |
| ECTS for the study field                                  | No less than 120 ECTS                   | 141                      |
| ECTS for studies specified by College or optional studies | No more than 120 ECTS                   | 24                       |
| ECTS for internship                                       | No less than 30 ECTS                    | 30                       |
| ECTS for final thesis (project)                           | No less than 9 ECTS                     | 9                        |
| Practical training and other practice placements          | No less than one third of the programme | 1726 hours               |
| Contact hours                                             | No less than 20 % of learning           | 50%                      |

*(2) Expert judgement/indicator analysis*

The learning outcomes of the study program are supervised by the Study Programme Committee, which also includes partners and students. The students are usually asked about the study program, also the graduates, employers and associations. All the updates are notifying in the social networks.

During the visit, it was confirmed that the opinion of the companies is considered although it is done individually. The experts panel believes it is convenient that there is a committee where the companies are integrated and meetings are held with all them at the same time.

*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 examples of links between study program aims, anticipated study program outcomes and study subjects are presented in the SER in Table 1.3.

The information of all study subjects is mastered through direct contact and online teaching through Zoom, and individual student work. According to the SER, active teaching-learning methods based on experience are applied: specific situations that arise during the study process are resolved by applying the knowledge and skills acquired. These assignments allow you to master specialised software. Most subject matter teachers use study methods such as teamwork, small group work, reflection, etc. When assessing student learning outcomes, teachers try to ensure the compatibility of assessment methods with applied teaching methods. Teachers select assessment methods, specific tasks and define assessment criteria based on the complexity of the learning outcomes. Students' learning outcomes are assessed and recorded in KMAIK's "E-rezultatai" academic database.

*(2) Expert judgement/indicator analysis*

The meetings at the college confirmed that students are pleased with the teaching staff, learning outcomes and teaching/learning and assessment methods. Alumni also confirmed this.

*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*

KMAIK applies complex consistent model of developing general theoretical, special and practical competencies.

Core or compulsory subjects consistently develop abilities to efficiently act in professional activity area. Studies of optional subjects develop broader professional competencies and abilities. Optional study program specialisation subjects are studied at the end of studies. Practical training is a fully-pledged part of the study program, designated to help a student gain necessary professional experience.

Professional Activity Practice is implemented by signing a tripartite learning agreement between KMAIK, a student and an institution accepting students for practical training. This practical training is conducted in state or private institutions. If the internship is mandatory, the student should be assured that they have a place to carry out this training.

The content of study subjects is designed after evaluating the workload of students by distributing it optimally on the basis of time.

*(2) Expert judgement/indicator analysis*

In the meetings with the teaching staff and with the students, it is confirmed that there are no overlaps between the subjects and that there is good coordination between the teaching staff to ensure that the students acquire the competencies.

*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 volume of optional study subjects in Real Estate Cadastral Measurements study program (SER Annex 1) comprises 24 ECTS credits (Table 4).

Students have favourable conditions to individualise study program structure regarding personal learning goals and anticipated learning outcomes.

*(2) Expert judgement/indicator analysis*

Several subjects are available for students to customize the structure of the field curricula according to their personal learning objectives and expected learning outcomes.

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

*(1) Factual situation.*

The topics of final theses in accordance with scientific interest area are proposed by subject lecturers. According to the selected study program branch or intended work nature, topics can be proposed by students themselves. Social partners propose topics relevant for their enterprises/institutions. When preparing final thesis, a student must observe academic integrity requirements, which are defined in KMAIK Code of Academic Ethics and Description of Plagiarism Prevention System. The Qualification Final Thesis Defence Committee for final thesis assessment is composed of competent Surveying Engineering study field specialists – lecturers, researchers, practitioners. The composition of the Committee is approved by KMAIK's director. It includes representatives of social partners – employers, Real Estate Cadastral Measurements study program lecturers and an administration member.

Students, who successfully complete the studies and fulfil all Real Estate Cadastral Measurements study program requirements, are awarded Professional Bachelor degree of Surveying Engineering.

*(2) Expert judgement/indicator analysis*

During the review of the theses it was corroborated that the students' Graduation Theses use topics specific to the area of professional activity and the needs of the labour market. Their content complies with the objectives and expected learning outcomes of Real Estate Cadastral Measurements.

Conversations held during the meetings with students and the employers was corroborated that the companies are part of the evaluation committee.

***Strengths and weaknesses of this evaluation area:***

***(1) Strengths:***

1. Collaboration with companies and associations.
2. Hybrid teaching methodology between face to face and online lectures.
3. Final thesis topics proposed by social partners guided by the needs and/or interest of companies and institutions.

***(2) Weaknesses:***

1. If the internship is mandatory, the student should be assured that they have a place to carry out this training.

### **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***

Teaching staff at KMAIK mainly conduct applied research and consultancy activities for external companies. The conducted research works mainly concern photogrammetry in agriculture,

cadastre and GIS. The effects of completed research are announced in the form of articles in international scientific journals and in the form of papers presented at conferences and scientific seminars. Moreover, in the last 3 years, academic teachers took part in projects financed under the ERASMUS+ programme. They are active in acquiring new research projects by submitting applications in national and international competitions. Teachers actively participate in the work of professional associations and other organizations related to own research areas. In addition, the College cooperates with national institutions and ministries whose area of interest coincides with the activities of the College. A detailed list of cooperating companies and institutions can be found in the Self-Evaluation Report. The effects of such activities extend the didactic content provided to students.

#### *(2) Expert judgement/indicator analysis*

All conducted research works are part of the didactic trend of the college. The results of research work allow for the academic staff development. The teacher actively works to acquire new research projects that strengthen the scientific potential of the field of measurement engineering. The academic staff by participating in the activities of non-governmental associations or professional regional and national organizations increases their qualifications, which translates into enriching the didactic content provided to students during classes.

### *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 Self-Evaluation Report informs that studies in the field of measurement engineering are carried out on the basis of the latest scientific knowledge. The effects of the completed research work are included in the student education program and professional practice. Constant cooperation of lecturers with social partners allows for quick updating of education programmes in the field of geodetic engineering. Agreements concluded with cooperating companies and organizations provide students with access to the latest technologies and measurement techniques. Particularly noteworthy is the fact that remote work techniques and devices with remote operation (for example drones) are increasingly used.

#### *(2) Expert judgement/indicator analysis*

The research works carried out have a direct impact on the updating and implementation of the study program in the field of measurement engineering. The studies are focused on the development of independence, creativity and practical competences of students. Which was confirmed during a meeting with students. Agreements concluded with companies oblige companies to inform about novelties in the field of measurement engineering and to ensure professional practice for students. This allows you to plan the development and modernization of your didactic facilities.

### *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 are involved in the implementation of research work. Students take part in the implementation of projects in the field of applied research, in the preparation of scientific publications. Students present the results of their research works in their diploma theses. In addition, they receive the latest knowledge during professional practice. Students actively participate in the college scientific conference, the subject of which coincides with the area of study. The SER only states that a few students participated in commissioned work. Full quantitative information on the participation of students in research work has not been provided.

#### *(2) Expert judgement/indicator analysis*

Students participate in the implementation of research projects and in the presentation of the results of these works. Despite the lack of information in the SER how many students participated in what research work, the evaluation team states that a lot of students participated in the implementation of research projects. Such conclusions emerged after a meeting with students during a visit to the college. Analysing the meeting with students, the evaluation team concludes that the participation of students in research works stimulates their creativity and significantly awakens the desire to study a chosen field of study.

### *Strengths and weaknesses of this evaluation area:*

#### *(1) Strengths:*

1. Teachers' activity in research works (inference and implementation)

## ***(2) Weaknesses:***

1. Increase the number of students participating in research works

### **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***

KMAIK has one *first cycle* study program (*Real Estate Cadastral Measurements*) in measurement engineering field. Rules for admission and competitive admission score calculations are described in “The Rules of Students’ Admission to KMAIK”. Admission is organized regarding requirements and regulations of Ministry of Education, Sciences and Sports, and the rules for admission of students approved by KMAIK Academic Council. According to SER and on-site visit, 38, 41, 36 and 30 (full-time and part-time) students have been admitted in 2019-2022 respectively. In 2019 more students were accepted to part-time studies (26 and 12), in later years, larger number of students were enrolled into full-time studies. Every year average competitive score was larger for SF study places in comparison with SNF study places. Full-time and part-time average competitive score were similar every year (difference was approximately 0.02). In order to attract more students KMAIK presents study programme at study fairs, during Career days, by visiting schools and organising KMAIK Open Days and other promotional events.

##### ***(2) Expert judgement/indicator analysis***

Even though minimal competitive score was increased by Education ministry, number of students applying and admitting to Measurement engineering study field at KMAIK is not low and is stable both in full-time and part-time study modes. One of the reasons of higher number of students enrolled is that KMAIK offers studies part-time which can be chosen by people who already have gained higher education and want to balance work and studies. KMAIK should keep promoting its’ study program in order to keep these number as high as they are now.

#### ***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 information about process for recognition of foreign qualifications, partial studies and nonformal and informal learning is provided in the “Description of evaluating and recognising competences acquired by non-formal and informal ways” and in the “Description of Recognising Learning Outcomes”. During 2019-2021 6 students had their achievements from partial Erasmus+ studies recognised and 8 students got recognition of their achievements in other study program. However, no students had their non-formal and informal achievements recognised.

*(2) Expert judgement/indicator analysis*

KMAIK has procedures that are described and published in KMAIK website. Students are informed that their previous experiences and achievements gained during partial studies can be recognised but more attention should be paid to informing students about recognition of non-formal and informal achievements.

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

*(1) Factual information*

KMAIK students can use academic mobility opportunities from 41 bilateral Erasmus+ and Nordplus cooperation agreements. Information about academic mobility is provided by the KMAIK’s Head of International Relations and administration of the respective academic department and can be found on KMAIK website, social media, during meetings with students and representatives of foreign HEIs. Furthermore, promotional events for students are organized in order to encourage them to use this opportunity. During 2018-2021 6 students have completed partial studies / internships under Erasmus+ mobility programme and all student studied in Latvia’s University of Life Sciences and Technologies. In 2022 7 students participated in Erasmus+ Blended Intensive Programme.

*(2) Expert judgement/indicator analysis*

Some students of Measurements engineering study field in KMAIK use academic mobility opportunities for partial studies, internships or short intensive programmes. Even though procedures to apply for partial studies seems clearly established and promoted, the number of students going to study abroad for a full semester is lower in comparison with number of students in study program. KMAIK should be paying more attention to encouraging students to use academic mobility opportunities (maybe blended or virtual mobility could be an option).

### *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*

Information about academic, financial, social, psychological and personal support can be found on KMAIK website. A wide spectrum of scholarships is available for the KMAIK students according to Lithuanian laws and include incentives, support for disabled persons, and onetime scholarship to support research and other activities.

Students are consulted by administration staff, the head of respective department, course tutors and lecturers on personal, psychological and financial support issues. Moreover, KMAIK proposes free psychological help and consultations from KMAIK psychologist. Furthermore, meetings with representatives of social partners are organised helping students to get more information about future career possibilities.

#### *(2) Expert judgement/indicator analysis*

The panel judges that students' academic, financial, social support is adequate and suitable. During on-site visit students claimed that they know what help they can receive and where to look for it. Students emphasised that administration and teaching staff is helpful, answers their questions thus making a peaceful environment for them to study.

### *3.3.5 Evaluation of the sufficiency of study information and student counselling*

#### *(1) Factual situation*

Student counselling starts from the first days at KMAIK during an "Introduction to Speciality" subject where they get relevant information about study process. In order to help students to solve arising problems, first-year students are assigned with lectures-tutors. Moreover, study information is provided in VLE Moodle, social networks, during consultations with study administrators, regular meetings with senior student and directly from teachers.

#### *(2) Expert judgement/indicator analysis*

During on-site visit students expressed that counselling is sufficient and there is no deficiency of study information dissemination. It is commendable that "Introduction to Speciality" subject has been created since students find it useful. Furthermore, students appreciate teachers and administrations staff who answers them fast and also encourages them to ask.

### ***Strengths and weaknesses of this evaluation area:***

#### ***(1) Strengths:***

1. Information about study process is sufficient and easy accessible.
2. The number of students enrolling is high and stable.

#### ***(2) Weaknesses:***

1. Low number of students using academic mobility opportunities.

### **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 information***

The College uses virtual learning environment Moodle, which introduces students to detailed information about studies: curricula of a study subject/module, learning resources of the subject, individual assignments, methodological guidelines, self-check questions, assignments of intermediate and final testing. It establishes a possibility for students to learn independently at their convenient time, to flexibly combine study time, to self-assess their achievements. In order to turn anticipated study subject outcomes into students' achievements, the College is applying a broad spectrum of up-to-date study and assessment methods, which would enable active students' participation in the studying process.

KMAIK Study Regulations state that study outcomes are assessed by lecturer(s) of a respective subject/module or a commission consisting of specialists of a certain area (e.g., for the assessment of study outcomes during defence of Graduation Thesis). This assessment is carried out with the help of various intermediate tests and other lecturer's assignments.

KMAIK ensures a teaching and learning process that takes into account the needs of students and enables them to achieve their intended learning outcomes.

#### ***(2) Expert judgement/indicator analysis***

Teaching and learning process is well organized. Social partners are involved in the process.

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

##### *(1) Factual information*

In order to ensure equal possibilities and to establish appropriate studying conditions for socially vulnerable groups and students with special needs, since 2012 KMAIK has been participating in social projects implemented by State Studies Foundation.

Within the period of 2018-2021, students with special needs did not study in Real Estate Cadastral Measurements study program.

##### *(2) Expert judgement/indicator analysis*

KMAIK need to implement measures for student with special needs. Laboratories and other rooms/equipment need to be adopted.

#### *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 information*

A systemic monitoring of study process is carried out in the College. Study administrators and lecturers are responsible for monitoring of student achievements and for their support following assessment of intermediate tests/individual assignments. Students can find results of their passed subjects in KMAIK's e-record system "E-rezultatai" and Moodle environment. Lecturers record students' participation in lectures, results of intermediate tests, presentations of individual assignments and regularly give feedback to the head of the respective academic department and study administrator. The study administrator personally (by e-mail or phone) contacts the students who miss intermediate tests or do not submit reports of individual assignments in order to know the reasons.

##### *(2) Expert judgement/indicator analysis*

Monitoring system implemented and work on regular base. Students and teachers use it regularly.

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

##### *(1) Factual information*

Cooperation with graduates at the College is taking place in various ways. KMAIK have good cooperation with graduates and social partners. Recently, KMAIK Alumni club has been established.

##### *(2) Expert judgement/indicator analysis*

Monitoring of careers of graduates is implemented but contact with social partners is in place.

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

##### *(1) Factual information*

In 2018, KMAIK Academic Council approved the updated Code of Academic Ethics, which establishes values for the University academic community members. It regulates ethical norms and principles of community members' rights and duties. Academic ethics is perceived as the integrity of commonly acknowledged values, assuring transparency of studies and research activities, integrity, justice, equality of process participants, non-discrimination, responsibility, sustainable use of resources, unbiased assessment of learning and assignments, trust, respect and protection of intellectual property. Implementation of Code of Academic Ethics is supervised by the Academic Ethics Committee, which acts under the guidance of Regulations of Ethics Committee Activity.

#### *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 information*

The procedure of submitting and analyzing appeals and complaints is regulated by KMAIK. Regulations of Appeal Committee and Regulations of Staff and Student Dispute Resolution Committee. Regulations of the Appeal Committee define the procedure of forming the committee, its work as well as submitting and analyzing appeals. There was no appeal from 2018.

#### ***Strengths and weaknesses of this evaluation area:***

##### ***(1) Strengths:***

1. High quality teaching, financial, social, psychological and personal support.

## ***(2) Weaknesses:***

1. Infrastructure for student with special needs must be improved.

### **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*

According to the SER (the data of October 1, 2021) there are 25 lecturers (8 have PhD degree) who teach Cadastral Measurements of Real Estate. In the field of study there are 17 lecturers teaching and 7 of them are PhDs. Most of the teaching staff have practical work experience of more than 3 years but only 7 of them work full time at the College and they actively participate in various professional development activities (conferences, internships, courses, seminars), related to the improvement of their thematic and didactic competences. Table 10 shows the ratio between the number of lecturer and the number of students (1 lecturer with 6-8 students). Annex 3 provides the list of KMAIK Surveying Engineering study field lecturers by indicating their academic and/or scientific title, teaching experience, areas of scientific interests and the most significant works as well as experience of practical work in the field of a subject, the subjects taught, and their current workload at the College. Full-time professors are needed to be more available to students and to focus their careers on teaching and research, since most are part-time professors (10 of 17).

#### *(2) Expert judgement/indicator analysis*

The academic staff actively participate in various conferences, internships, courses and seminars that help in the improvement of their teaching as has been proven in the meetings held with employers, social partners and in the meeting with them, but the university must increase the full-time teaching staff to carry out their work at the university and students have more direct contact with them.

### *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.*

According to SER, the promotion of internationalization is one of KMAIK's strategic directions indicated in the KMAIK 2030 Strategy. To date, KMAIK has signed 41 cooperation agreements with HEIs in 16 European countries. The College is also active in the NordNatur network, funded by the NordPlus program. In Table 11 you can see the data of teachers who carry out stays abroad in the framework of the ERASMUS+ programme (10 outgoing). In the period 2018-2021, table 12 shows there were 13 incoming teachers from foreign HEIs came to KMAIK for academic work. The academic year 2020/2021 was extremely complicated due to the COVID-19 pandemic, although some online meetings were attempted.

Annually, the KMAIK International Scientific Conference "Relevant Issues of Environmental Management" is held. In 2018/2019 there were 19 speakers from different countries and the 2020/21 course which was organized online was attended by 18 foreign speakers.

#### *(2) Expert judgement/indicator analysis*

In the meeting held with the teaching staff, the predisposition of them for internationalization was shown. There is a good balance between incoming and outgoing mobility of the teaching staff.

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

#### *(1) Factual situation*

According to the SER, lecturers' achievements in the area of professional development are evaluated during a certification process every five years. This obliges them to improve their thematic, didactic and professional competences and to carry out research activities.

KMAIK teachers have the possibility to constantly develop their didactic and thematic competences, to improve their qualifications and to participate in international exchange programs abroad. In this moment, a lecturer qualification development plan is being designed, which includes the development of professional, didactic, IT and linguistic competencies. In addition, KMAIK has established favourable conditions for the development of teachers' competencies: they are encouraged to pursue doctoral studies, are offered a flexible schedule and

are granted up to 6 months of additional paid leave for the preparation of the doctoral thesis. This motivates young professors and ensures the replacement of retirees.

KMAIK lecturers participated in qualification development events at least 200 times a year in the last academic year.

*(2) Expert judgement/indicator analysis*

The conditions to improve the competences of the teaching staff are aligned with the needs of the teaching staff and the university is concerned that the teachers use them.

***Strengths and weaknesses of this evaluation area:***

***(1) Strengths:***

1. The teaching staff is stable and turnover is low.
2. The relationships between teachers and students ensure close cooperation and collaboration, increase students' motivation to learn, and foster the development of professional and social competencies.
3. Good conditions for training of the teaching staff.

***(2) Weaknesses:***

1. Increase the number full-time teachers of the core subjects.

### **3.6. LEARNING FACILITIES AND RESOURCES**

***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.***

KMAIK is located in the middle of nature, in the settlement of Girionys, Kaunas district and in the last 20 years a modern infrastructure with up-to-date study and research facilities has been established.

The IT and technological facilities are supervised by KMAIK's IT specialist.

All facilities are detailed in the SER and most of them could be seen during the visit.

24 classrooms are used for lectures of theoretical subjects. There are 6 computer classes (laboratories), there is a library with a reading room, an event room (350 seats), sports hall, rest areas and Internet connection (free Wi-Fi) in all areas.

In 2016 KMAIK launched a large-scale project financed by the EU Structural Funds "Improvement and development of study infrastructure, consulting activities and applied research with the aim of increasing the efficiency of university activity", however, the facilities need to be adapted for people with special needs.

Students who do not have a personal computer can work independently in the unoccupied computer rooms and use the necessary software outside working hours after informing the department administration. All teachers and students can connect to the computers in the classrooms and work from home online. Students are familiarized with the instruments and equipment mentioned during the course Geodetic Instruments. Their practical use is fully mastered during the professional Geodesy internship (16 ECTS credits). The latest devices are also discussed during the course of study of geodetic instruments-every spring a representative of the social partner UAB "TPI Vilnius" is invited to present and demonstrate the latest devices to the students. The settlement of Girionys and the surrounding territories, with complex relief and abundance of various objects, is used to perform photogrammetry practice.

### *(2) Expert judgement/indicator analysis*

During the visit, the suitability and adequacy of the physical and informational resources of the field studies to ensure an effective learning process was verified. It should be considered that the spaces must be adapted for people with special needs and that only one station is available for photogrammetry practices, although the students have not complained about it.

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

#### *(1) Factual situation*

In KMAIK Strategy Plan 2021-2023, the most important strategic trends are indicated. One of them (SK5) lists specific measures for improvement and development of studies facilities.

According to SER, it is intended to allocate 5 thousand EUR for complex supply of the study facilities every year. The material resources are upgraded with regard to the number of newly admitted students, lecturer requests and proposals, scientific achievements, and technological

changes in the country and abroad. Once a year, all software installed into KMAIK computers is auditioned and upgraded.

*(2) Expert judgement/indicator analysis*

The planning and improvement of the necessary resources to carry out the field studies is considered adequate.

**Strengths and weaknesses of this evaluation area:**

***(1) Strengths:***

1. Good learning facilities and resources to achieve the learning outcomes at KMAIK.

***(2) Weaknesses:***

1. The spaces must be adapted for people with special needs.

### **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 SER shows that the guidelines ensuring the quality of education are described in the document entitled: "University System of Assurance of Study Quality". The procedures describing the scope of duties are also described in the Statute of the College, Work Regulations, Study Regulations and other internal documents. Responsibility for effective management and ensuring the quality of studies rests with the Director and the Scientific Council of KMAIK. The didactic process is coordinated by the Deputy Director for Academic Affairs, while the Deputy Director for Development and Innovations is responsible for contacts with external stakeholders. The teaching staff is responsible for maintaining the compliance of the study program with the external legal system. Each level of university administration has specific tasks aimed at maintaining an appropriate level of education and quality of studies. The committees of study programs are responsible for the permanent updating of the study programme.

### *(2) Expert judgement/indicator analysis*

The Quality procedures the college uses are generally well-developed and are suitable for improving the quality of study. The senior management and SER staff convinced the panel that all groups are familiar with the instruments and processes and use it in the way the Self-Evaluation Report describes. The management of a quality system generally resembles the organization of quality management in European Universities.

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

#### *(1) Factual situation*

At KMAIK, internal stakeholders influence the quality of studies by participating in the work of statutory bodies of the university, such as: KMAIK Council, Academic Council, College Ethics Committee, Study program committees, Qualification Final Theses Defence Committee, Exam Appeal Committee.

Opinions of external stakeholders are obtained during informal talks within the College's Alumni Club. In addition, the college maintains contacts with regional and national governmental and non-governmental organizations. This cooperation secures the implementation of apprenticeships and has a direct impact of external stakeholders on the vocational education process.

#### *(2) Expert judgement/indicator analysis*

Internal stakeholders are involved in the process of maintaining the quality of studies. Teachers, as part of their professional duties, improve study programs and adapt the teaching environment. Students take part in surveys. The team of experts report no major problems. However, the management of the college should consider a more formalized (other than the College Alumni Club) exchange of information between external stakeholders and the college. Obtaining information from representatives of the labour market in the form of informal discussions does not guarantee the development of synthetic information about the needs of change in study programme in better preparation of graduates for functioning on the labour market.

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

### *(1) Factual situation*

Many surveys are carried out at the university. The surveys are available to first-year and final year students, after completing apprenticeships, for graduates, and for students returning from trips abroad (e. g. as part of the Erasmus programme). The analyses of the surveys are submitted to the statutory university bodies, and then they are used in long-term monitoring of the quality of studies. In addition, motions to modify the education process are formulated by members of the diploma examination committee, which are submitted to the Study Programme Committees.

### *(2) Expert judgement/indicator analysis*

Information about the field of study and the results of analyzes of surveys conducted among students are available on the college's website. It seems that the timetables should also be available to students in an open mode on the college website. The team of experts report no major problems because all information is consistent with the SER. The preparation and conduct of surveys for students is similar to that at European universities.

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

#### *(1) Factual situation*

The college has a feedback system that monitors the quality of the teaching process at the university. The system is based on student surveys, which are completed. Surveys have a real impact on the assessment of the teacher's work and, by definition, improve the organization of classes. In extreme cases, surveys have an impact on further employment of a teacher. Methods of organizing and conducting surveys as well as conducted analyses and publication of analysis results are described in the Self-Evaluation Report.

#### *(2) Expert judgement/indicator analysis*

The results of the surveys indicate high student satisfaction with the choice of the field of study at the college. This was confirmed during conversations with students during the on-site visit in the college. Particularly noteworthy is the fact that students are very interested in the short time trips under Erasmus program. This is proof of the proper use of student survey analysis in the process of ensuring the quality of studies and encouraging students to take advantage of EU programs.

***Strengths and weaknesses of this evaluation area:***

***(1) Strengths:***

1. Very well conducted analyses of data obtained in student surveys.

***(2) Weaknesses:***

1. Cooperation with external stakeholders should be expanded.

## IV. RECOMMENDATIONS

| Evaluation Area                                                    | Recommendations for the Evaluation Area (study cycle)                                                                                                                                                                                                          |
|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Intended and achieved learning outcomes and curriculum             | Should be assured that all students have a place to carry out this training because the internship is mandatory.                                                                                                                                               |
| Links between science (art) and studies                            | Increase the number of students involved in research work.                                                                                                                                                                                                     |
| Student admission and support                                      | Too low number of students use academic mobility opportunities. KMAIK should create more specific plan how invite students to consider studying abroad as a particular aspect for their academic career. Maybe blended or virtual mobility could be an option. |
| Teaching and learning, student performance and graduate employment | KMAIK need to improve conditions for students with special needs                                                                                                                                                                                               |
| Teaching staff                                                     | Increase the number full-time teachers of the core subjects.                                                                                                                                                                                                   |
| Learning facilities and resources                                  | The spaces must be adapted for people with special needs.                                                                                                                                                                                                      |
| Study quality management and public information                    | Develop cooperation with external stakeholders.                                                                                                                                                                                                                |

## V. SUMMARY

Kauno miškų ir aplinkos inžinerijos kolegijų is a state-owned college. Academic staff makes major contributions in their fields of research works which are connected with vision of college. For this reason, evaluation the field of study became a natural area of college development and increased the educational offer. Graduates of measurement engineering are in high demand on the labour market. Therefore, education should be at the highest possible level which is realized in KMAIK.

The experts panel would like to thank you very much for the professionally prepared Self-Evaluation Report, which helped a lot in preparing the External Evaluation Report.

The experts panel noted, from the interview with the students, that they are very proud and satisfied with the chosen field of study. They appreciate the close contact to their teachers and also appreciate the many forms of support offered to them. The expert panel had a very positive impression of the connections and relationships that the Faculty has developed with social partners, academic institutions, and employers, who expressed their satisfaction with the qualifications that graduates obtained during their studies.

The experts panel positively evaluates high students' activity during conferences and other national and international events. It is commendable that number of students enrolled is high and stable. Students have also claimed that information about study process is sufficient.

The suggestions for improvement made in this report partly refer to: the promotion of the field of study is carried out in an appropriate manner, as evidenced by the large number of students in the first year of study, the relationships between teachers and students that ensure close cooperation and collaboration. KMAIK should pay more attention in informing students about academic mobility and encouraging them to use it more actively.

The only major point of concern the expert team identified are increase the number of students involved in research works, promotion of long-term Erasmus program (this could significantly

expand the knowledge - not only practical knowledge of students), increase the number fulltime teachers of the core subjects and adapt spaces for people with special needs.

At the end team of expert would like to thank all staff, students, social partners and administration staff involved in evaluation and took part in our meetings for their commitment and help during site visit. We wish to assure all concerned that we have made every effort to scrupulously analyze the evidence presented to us and have thoroughly discussed and considered our recommendations.

Expert panel chairperson signature:

Prof. dr. Krzysztof Czaplewski