



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

**KAUNO KOLEGIJOS
MAISTO SAUGOS IR KOKYBĖS PROGRAMOS
(valstybinis kodas - 653E43002)
VERTINIMO IŠVADOS**

**EVALUATION REPORT
OF *FOOD SAFETY AND QUALITY*
(state code - 653E43002)
STUDY PROGRAMME
at KAUNAS COLLEGE**

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Išvados parengtos anglų kalba
Report language – English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Maisto sauga ir kokybė</i>
Valstybinis kodas	653E43002
Studijų sritis	Technologijos mokslai
Studijų kryptis	Maisto technologijos
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	pirmoji
Studijų forma (trukmė metais)	nuolatinė (3), iššėstinė (4)
Studijų programos apimtis kreditais	180
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Maisto technologijų profesinio bakalauro laipsnis
Studijų programos įregistravimo data	2008-01-18

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Food Safety and Quality</i>
State code	653E43002
Study area	Technology Sciences
Study field	Food Technology
Type of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time (3), part-time (4)
Volume of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor in Food Technology
Date of registration of the study programme	18-01-2008

CONTENTS

I. INTRODUCTION	4
1.1. Background of the evaluation process	4
1.2. General	4
1.3. Background of the HEI/Faculty/Study field/ Additional information	4
1.4. The Review Team	5
II. PROGRAMME ANALYSIS	6
2.1. Programme aims and learning outcomes	6
2.2. Curriculum design	8
2.3. Teaching staff	10
2.4. Facilities and learning resources	12
2.5. Study process and students' performance assessment	13
2.6. Programme management	16
2.7. Examples of excellence *	18
III. RECOMMENDATIONS	19
IV . SUMMARY	20
V. GENERAL ASSESSMENT	23

I. INTRODUCTION

1.1. *Background of the evaluation process*

The evaluation of on-going study programmes is based on the **Methodology for evaluation of Higher Education study programmes**, approved by Order No 1-01-162 of 20 December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC).

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

The evaluation process consists of the main following stages: 1) *self-evaluation and 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 external evaluation report of the study programme SKVC takes a decision to accredit study programme either for 6 years or for 3 years. If the programme evaluation is negative such a programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas are evaluated as “very good” (4 points) or “good” (3 points).

The programme is **accredited for 3 years** if none of the areas was evaluated as “unsatisfactory” (1 point) and at least one evaluation area was evaluated as “satisfactory” (2 points).

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

1.2. *General*

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

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

Kaunas College (hereinafter – KK) is one of the largest higher professional education institutions in Lithuania with a strong academic reputation. The initial target of the College is to ensure high quality of teaching and applied research. The graduates of the College are awarded Professional Bachelor degrees. The studies are practice orientated; students are able to apply their knowledge successfully in a real working environment. At KK 50 study programmes are being implemented in the study areas of biomedicine, humanities, social sciences, technological sciences and arts. Over 7300 students are currently enrolled in KK study programmes. More than 22 thousand graduates have already joined the labour market. Applied research covers research performance, publications, publishing activity, conferences, seminars, exhibitions, expert activity,

consultations, and artistic creativity.

The Food Safety and Quality Study Programme is offered in the Faculty of Technology and Landscaping. The Faculty of Technology and Landscaping consists of 7 departments, where 16 study programmes are realised. The Department of Food Technology (hereinafter referred to as FTD) is responsible for the implementation of the Food Safety and Quality study programme (hereinafter referred to as FSQ SP) as well as the Food Technology study programme (hereinafter – FT SP). FSQ SP has been implemented since 2008. The external evaluation of the assessed programme was conducted in 2012. The external evaluation was carried out by an international Expert Team. The Food Safety and Quality study programme was accredited for 3 years.

Food safety and quality specialists were trained in accordance with the approved Food Safety study programme since 2008. The title of the Food Safety study programme has been changed to “Food Safety and Quality”.

1.4. The Review Team

The review team was completed according to *Description of experts' recruitment*, approved by order No. 1-01-151 of Acting Director of the Centre for Quality Assessment in Higher Education. The Review Visit to HEI was conducted by the team on 21st April 2015.

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| <ol style="list-style-type: none">1. Prof. Dr. Frank McMahon (team leader), Emeritus Director of Academic Affairs Dublin Institute of Technology and former Director of the College of Tourism and Food, Dublin Ireland;2. Prof. Dr. Raul Filipe Xisto Bruno de Sousa, Former Professor at the Department of Sciences and Engineering of Biosystems, School of Agronomy, Technical University of Lisbon, Expert of A3ES Quality and Accreditation Agency, Portugal;3. Dr. Robert Van Deun, Lecturer at Agro- and Biotechnology Department, Thomas More University College (Belgium), Expert of the Dutch - Flemish Quality and Accreditation Agency (NVAO), The Hague, the Netherlands;4. Assoc. Prof. Dr. Rimgailė Degutytė, Lecturer at the Department of Food Science and Technology, Faculty of Chemical Technology, Kaunas University of Technology, Lithuania;5. Ms. Aušra Išarienė, Head of Food Department at the State Food and Veterinary Service, Lithuania;6. Ms. Inga Kalpakovaitė, Bachelor student of Molecular Biology, Vilnius University, Lithuania. <p>Evaluation coordinator Ms. Natalja Bogdanova</p> |
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II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The aims of the Food Safety and Quality study programme are well defined. The main aim is to train specialists who are able to take decisions in assuring food quality and safety within the entire chain of food production. The main aim includes the preparation of graduates who have the ability to evaluate the quality of raw materials, ensure the implementation of technological processes in accordance with the requirements of legal normative acts, assess food safety hazards and apply preventative measures to control them, by supplying the market with safe and quality products. The aims are in line with market needs, they are achievable in a three year full-time programme and are appropriate for a graduate with a Professional Bachelor degree. The learning outcomes have been developed in line with the overall aims mentioned above and the results of 22 research/expert projects undertaken by KK staff in the food industry. These projects included Skills on Demand Meeting Labour Market Needs (2014/15), Lithuanian Standardisation Department (Fishery, Meat and meat products and Milk and milk products) and Preparation of modern teaching tools for programmes of food industry (2013/14). FSQ SP of KK is the only study programme of its kind being delivered in Lithuania.

The aim of the study programme and the learning outcomes are published and disseminated in the Lithuanian and English languages on the websites (e.g. <http://www.kaunokolegija.lt/wp-content/uploads/2012/09/MT-EN1.pdf>). Dissemination of the aims of the programme and learning outcomes is done through open days organized to meet future students and events organized by professional organizations linked to the food industry. Indicated measures ensure the systematic and effective publicity of the of FSQ SP. The aims and learning outcomes are consistent with the level of studies and level of qualifications offered. The award is based on the successful achievement of 180 ECTS credits which is in line with national and European requirements.

The learning outcomes of FSQ SP are improved every year. The last redesignation was in 2014. The review of the learning outcomes is done at the end of each academic year and takes into account the results of researches on needs of labour market, employers' views of the merits and weaknesses of the final theses prepared by students of the programme, recommendations of employers and teachers, students' opinion, and the documents regulating the study programme.

There is a clear link between study programme aims, learning outcomes and study subjects. Each subject has its own specified learning outcomes, so it is ensured that subject intended learning outcomes, programme learning outcomes and the overall programme aims are compatible with each other. For example, a programme learning outcome is that a graduate will apply food safety and quality requirements set for raw materials, food products, technological processes and

infrastructure. The programme document goes on to list all the subjects that will contribute to this outcome, including Biological Food Safety, Food Engineering, Basics of Quality and Safety, Basics of Laboratory Practice, Food Safety Management Practice, etc. (there are 17 contributing subjects). And then each subject has detailed learning outcomes and specifies the study methods and the assessment strategy that will be applied. The expert team reviewed the subject learning outcomes and was satisfied there is sufficient correlation between aims, learning outcomes and study subjects.

The study cycle learning outcomes are presented in 5 categories: knowledge and its application, ability to perform analyses, special abilities, social competence and personal competence. These categories are based on the Dublin Descriptors and are appropriate. However, while the learning outcomes at subject and programme level are detailed, it would be better if they were more specific. For example, it is not sufficient to state that a graduate should be able to perform analyses but rather the programme team needs to define the analyses a graduate should be able to perform and the special abilities needed.

Overall, the Review Team regarded the aim and learning outcomes of the study programme as logical, realistic, and achievable. They are based on the Dublin Descriptors and are consistent with the learning outcomes for first cycle degrees of the Bologna Framework and the European Qualifications Framework. The graduates with a professional Bachelor degree in food technologies have possibility to work as safety specialists (meat, milk, fish, beer and other drinks, fruit and vegetable processing, bread, flour, confectionery, and in other food production companies processing agricultural produce), also as food safety risk analysts in laboratories, food safety process managers (directors) and management representatives for food quality and safety in production. KK uses interdisciplinary integration as a method to prepare future graduates for the changing job market. In the case of the FSQ SP, there is interdisciplinary integration between Technology and Equipment of Food of Animal Origin, Economics and Food Safety Management Practice. The College should consider broadening this approach to other disciplines and thereby equip graduates to be fully flexible in their problem-solving capacity.

During the period assessed (2012/2014), 15.4% of the graduates continued studies to progress to a Master's degree in Kaunas University of Technologies, Vytautas Magnus University, Aleksandras Stulginskis University, or Lithuanian University of Health Sciences. It is not clear what type of programme was chosen. A difficult bridging programme was mentioned by the graduates whom the Review Team met, is a reason why some graduates hesitate to upgrade their qualification.

Whilst the Review Team proposes some improvements for the programme content (details are provide in section 2.2), nevertheless it concluded that the name of the programme, its learning outcomes, its contents and the qualification offered are all compatible with each other.

2.2. Curriculum Design

FSQ SP comprises 180 credits. The duration of studies is 3 years in full-time studies and 4 years in part-time studies. The curriculum design meets the legal requirements for Professional Bachelor degree. General college studies subjects make up 15 credits (8.3% of the volume of studies), the group of study field subjects – 135 credits (75 %), out of which study field subjects - 87 credits (48.3%), practice – 36 credits (20%), and Final Thesis – 12 credits (6.7%), optional subjects – 30 credits (16.7% of the volume of studies), out of which deeper specialization in the same study field – 21 credits (11.7%) and subjects of free choice – 9 credits (5.0%). The study subjects are spread over the study years so that subjects of each year provide 60 ECTS for full-time studies and 45 ECTS for part-time studies, duration 3 years for full-time studies and 4 years for part-time studies. The volume of subjects is equal for full-time and part-time studies. The scope of the programme (3 years full-time, 4 years part-time) was deemed adequate by the Review Team to allow the achievement of the learning outcomes. As a Professional Bachelor programme it focuses on applied topics and aims to train food safety specialists.

The Review Team is satisfied that the subjects are spread evenly and are not repetitive. The structure of the programme is logical and academically sound in that it starts with basic sciences in year one, progresses to food-related sciences in year 2 and culminates with deeper specialisation subjects and final theses in year 3 of the full-time programme. The programme is clearly oriented towards “Food Safety and Quality” through its offering of specialist module on those subjects in years 2 and 3. There are modules of an animal/non animal food technology, equipment economy and food safety management practices. The main international standards of quality assurance ISO 9001, ISO 22000, BRC, IFS and other are included too.

The Review Team is satisfied that the content of subjects is consistent with a Professional Bachelor degree. The programme commences with basic disciplinary subjects such as Chemistry, Biology, Mathematics, Food Engineering and Basic of Food Law. It progresses to applications of those subjects to the Food industry such as Technology and Equipment of Food, Analysis of Food Products, Organisation of Testing Laboratory Activities and Safety at Work. The programme is practice-oriented that is implemented by the Basic Laboratory Practice in year 1 and progressing to Food Safety Management Practice and Technological Practice. The practice sessions are conducted in KK laboratories and in industry.

A variety of teaching/learning methods is used including lectures, laboratory practices and practice in industry on purpose to develop students’ abilities to analyze, assess and solve practical problems, discuss them among peers promoting students’ skills to work in a team. Moodle is offered as learning platform for personalized learning environments. The Review Team was satisfied that the content and methods of the subjects/modules were appropriate for the achievement of the

learning outcomes.

During the discussion with teachers, the importance of acquaintanceship with marketing and consumer needs for the future food technologist and food safety specialist was mentioned. The Review Team recommends further consideration should be given to the subjects “Marketing” and “Sustainability” because now the subjects “Basics of Marketing” and “Sensory Evaluation of Food and Consumer Surveys” are subjects of free choice. The College should continue their efforts to integrate the different subjects in assignments for students and make these subjects compulsory for FSQ (as well as for FT SP). “Sustainable food and sustainable food production” is not taught as a separate subject too but is addressed as a topic in different courses according to the staff. In view of the increasing attention of European policy makers to the subject of sustainable food, the College should examine the possibility of introducing this subject in the study programme.

According to the SER and during the meeting with teachers, it was learned that general HACCP (Hazard analysis and critical control points system) lectures are given in English language. There are no theoretical and practical lectures for general HACCP in Lithuanian language for all students. Later there are lectures on HACCP of animal and non-animal food only. The Review Team suggest further consideration should be given in the programme to the implementation of general HACCP principles, flexibilities, etc. for all students in Lithuanian. Also, it was noticed that there are no such topics as EU food legislation on food additives, flavoring substance, enzymes, food contact materials; also legislation on food contaminants. Therefore, the Review Team suggests that the programme would benefit if the Programme Committee add these topics in the programme.

When the Review Team asked the representatives of the students and graduates for suggestions to improve the curriculum, both suggested a more intensive study of foreign languages. Currently, KK offers some optional foreign language studies in English (at different levels), Russian and Italian (although there is no reference to any resources for teaching Italian). Students and graduates believed this is not enough, hence their recommendation for more. Apart from the direct benefit of mastering a foreign language, there may be beneficial effects on the level of student mobility outside Lithuania.

The Review team was informed of research activities by staff of KK and the encouragement given to students to participate in applied research activities. It was also claimed by KK that the content of FSQ SP is regularly updated on the basis of the outcomes of applied scientific research and the mobility of teachers as well as the cohesion of students’ final theses with the achievements in science. While the Review Team acknowledges that some staff members teaching the FSQ SP are involved in research activities and they encourage students to become involved in applied research, many more are not involved. The Review Team observed that references used in final theses do not always refer to the latest achievements in science instead e.g. “Wikipedia” is

sometimes used as a reference. Also it seemed that not valid legislation is used in final theses. The Review Team concluded that the content of the programme reflects the latest achievements in technologies but not in science. Further activity by staff in the area of scientific research will be required to reach the position where the content of the programme reflects the latest achievements in science. To achieve this position, further investment in facilities will be required.

2.3. Teaching staff

28 teachers are currently employed in the FSQ SP, however in Annex 2 of the SER it is indicated 25 lecturers (the difference may be due to temporary teachers employed to supervise students' final theses or due to the same lecturers teaching students from FT and FSQ SPs). Three of them are docents (11%), seven lecturers (25%), and 18 assistants (64%). 84% of the teachers either hold a master's degree or a corresponding equivalent qualification degree. Doctors of science comprise 22% of the staff, and 20% of study field subjects are taught by the teachers with a scientific degree. In the programme, 86% of the teachers are permanent. The average experience of pedagogic work is 18 years.

The Review Team is satisfied that the method of recruiting staff is in accordance with the requirements of legal acts and the requirements set in normative documents of the College. These include both academic qualifications and experience of working in industry. In regard to the latter, there is a requirement that at least half the teachers should have 3 years or more work experience in industry. In fact, 66% of teachers have more than 3 years' experience of working in the food industry while 97% have at least 3 years teaching experience. The subjects of the study field and deeper specialization in the same field are taught by 9 teachers who have an engineer/technologist professional qualification. The average age of FSQ SP teachers is 46.

The qualifications of the teachers, working in this programme, are sufficient in order to reach study objectives and results. The academic staff is composed in such a way that the basic education and the field of scientific activity would correspond to the subjects taught. The specialists with core specialization in Food Safety and Quality related fields are well represented. One of the strengths is that four teachers are auditor-experts, who have the expertise in applying practical innovations to work with students and can share the latest information on quality management systems. Both graduates of the FSQ SP, and the social partners confirmed that they could appeal to the expertise of the staff of the College. KK has an active programme of assisting staff to develop their qualifications and competences in their discipline, pedagogy and in foreign languages.

During 2012/2014 the average student/teacher ratio was 20 in 2013/2014. It is noted that ratio was increased whereas it was 18 in 2011/2012. The Review Team considers this number is still adequate to teach the programme. Students and graduates both from the full-time programme

and the part-time programme commented favourably on the availability of teachers to meet and assist students when requested, which supports the view that the number of teachers is adequate.

During 2012/2014, the number of teachers' posts in the FSQ study programme (in full-time and part-time studies) decreased by 0.6 post, i.e. in academic year 2012/2013 it was 9.24, while in academic year 2013/2014 – 8.66 (the turnover of permanent teachers and non-permanent teachers was 11%). Thus, the turnover of teachers was insignificant and did not have any effect on the quality of studies.

The College has a programme of assisting staff to develop their qualifications and competences in their discipline and pedagogy, which includes formal and non-formal education. Only one teacher upgraded his qualification to a Master's degree during the evaluation period. The Review team noted and during discussion the teachers informed that all permanent teachers have upgraded their pedagogical/methodological qualification (90% of the teachers in 2013 and 97% of the teachers in 2014). According to the management, pedagogical training is provided but is not compulsory. The Review Team advises the College to make pedagogical qualifications compulsory for all new teachers.

During 2012/2014, teachers participated in 60 conferences, of which 54 were in Lithuania and the remaining 6 were abroad. This is a good rate of participation in conferences, though it would probably be better if teachers were involved in more foreign conferences. Teachers also participated in internships (in Lithuania and abroad), seminars, training courses and exhibitions. Overall, the Review Team concluded that KK pays sufficient attention to staff development and recommends the one additional step of making mandatory the acquisition of a qualification in Teaching & Learning for all new teaching staff.

In 2012-2014 the teachers were involved in applied research activities. During this period, 23 pieces of research work have been completed and 62 publications have been prepared. These figures represent an increase of 2.5 times in the number of publications comparing with the results in 2011/2012. Such an increase is to be commended, though it represents an output of approximately one publication per teacher per annum. The Review Team acknowledges the fact that because of industrial intellectual properties it is not always possible to publish results of certain research assignments. The College should continue efforts to encourage teachers to disseminate information through publications.

75.9% of the staff were active in one or more scientific or applied research projects; many of those projects are looking at pedagogical or methodological issues connected with education in food sciences. Involvement in research directly relevant to food technology is lower – 37.9% of the staff. The College should seek to encourage research related to food technology and food safety. In addition, the FTD organised a seminar on Food Safety Assurance system in 2013/14 and also a

scientific-practical conference on Food Safety. These efforts are commended by the Review Team and it recommends that more teachers are involved in research activity and that they involve their students in the activity.

During the meeting with the Review Team, a lack of funding was generally indicated by the staff as the cause of lower than ideal level of research activity. The Review Team noticed that laboratories are well equipped for educational purposes but are not always suited for research purposes. The Review Team advises the College to look at research opportunities when investments are considered in laboratory facilities. On the other hand, teachers are involved in smaller research projects commissioned by food industry.

2.4. Facilities and Learning Resources

The Review Team inspected the facilities available to the FSQ SP and it was satisfied that the premises for studies are adequate and very well equipped. The number of classrooms and laboratories the FTD has at its disposal is sufficient. The FSQ SP uses different laboratories: chemical analysis, microbiology, food quality analysis, process and apparatus, and sensory evaluation. The laboratories are well maintained and sufficiently equipped for educational purposes. For practical technology training the FSQ SP has different facilities at its disposal: laboratories for the production of bread, confectionery, meat products, dairy products and fermentations. These laboratories are equipped with instruments and devices used in typical small food processing businesses. These devices are ideal to simulate processing in full-scale technologies. These laboratories for practical technology training achieve the desired objective since social partners mentioned the strong practical skills of the students of the programme. Nevertheless the Review Team would like to suggest taking into account possible research opportunities when new investments in these laboratories are considered.

The Review Team was impressed by the facilities of the new KK Study Centre. The study centre offers different solutions in a highly integrated manner. The centre combines a library of scientific literature with computer workstations with online access to scientific databases. The students can use open and closed workspaces equipped with desktop computers and interactive whiteboards for individual and group work. The centre holds a reading room, a linguistic classroom for language studies and also rooms specifically equipped for people with visual impairment. Students can use 3 computer classrooms with a capacity of 15 to 20 seats and a video conference studio with a capacity for 90 students. WIFI is available in the premises of the Faculty of Technology and Landscaping, the library and the student hostel. Students can use the computers available in the new Study Centre and the computer classrooms to prepare their assignments.

The FSQ SP contains 7 practice modules, three of which are carried out in companies:

Introductory Practice, Industrial Practice and Final Practice. The other practice sessions are carried out in the laboratories at the College. Nevertheless, the FSQ SP has an agreement with the Kaunas Food Industry and Trade Training Centre. According to the director of this centre, it offers a supplement to the facilities in the College and will help with some practice sessions. Students stated that they did not experience problems finding suitable places for practice. They felt well prepared for the practice in companies. Employers stated they were happy to accept students for practice. The Review Team concluded that KK has adequate arrangements for student practice.

In recent years the college has invested in extra books and claims to have increased the number of volumes by 54%, during the assessed period. The teaching materials were increased for FSQ SP too; the latest literature, publications are available for students and teachers. KK Library is a member of Lithuanian Research Library Consortium (LRLC) and through this consortium it can make databases offered by other Lithuanian libraries available to KK students. These databases can be accessed on all KK computers.

KK has implemented the Moodle virtual learning environment which provides students of FSQ SP with access to the teaching/learning material of more than 50 subjects taught in their study programme. Foreign students can use less the teaching/learning material in English placed in the Moodle learning environment. Students confirmed the widespread use of Moodle which they welcomed.

2.5. Study Process and Student Assessment

The admission to the programme is organised through the General Admissions system of Higher Education Institutions (LAMA BPO). The Admissions requirements are based on national guidelines and are well founded. The number of students who have been offered admission to full-time studies has declined in the past three years from 35 to 31 and then to 25. The number admitted to part-time studies has declined from 31 to 23 in each of the past two years. The main reason of this is the overall decrease in the number of school and gymnasium graduates.

During the period assessed, the average of competition marks of students admitted to FSQ SP decreased in 2014. This was probably due to the changes in calculation procedures of the competition mark according national the new Law on Higher Education and Research which came into force in 2014. There was a very high variation in competition marks of the entrants that implies highly variable knowledge base in every new class. During the meeting with the Review Team, representatives of the staff referred to this issue as an important problem they have to deal with. The College needs to give continuous attention to this difference in basic knowledge between entrants and take this in consideration whenever the study programme, curriculum or study methods are reviewed.

The completion rate of full-time and part-time students for recent cohorts is presented in the SER and it indicates very few students are expelled for under-achievement (just 3 in the past three years) and rather more (9 in total) withdrew voluntarily. But the vast majority of students complete the programme on time which indicates that the scope of the programme is sufficient to ensure the learning outcomes. Individual talks are organized with students who intend to terminate their studies.

Theoretical lectures are delivered to larger groups while the number of students is smaller in seminars and practical training classes to provide more contact with the lecturer and the lab staff. Students testified that the communication between lecturers and students is friendly and open. Teachers are accessible for further consultations, and students feel supported by the teachers. During the interview with the Review Team students confirmed that the timetable provides enough opportunities for self-study.

There is organized an annual national student conference “Applications of Innovations in Technologies” which has taken place at KK each year since 2007. It provides students with the opportunity to present their research findings to their peers. In addition, students of FSQ SP sometimes present at conferences elsewhere in Lithuania or abroad. In the period 2012-2014, twenty two students presented articles at conferences. The Review team noted that students could be more active in their participation in conferences, as less than half of the students participated in conferences per one year. An initiative that may improve the participation rate was the establishment in 2014 of the Student Scientific Association (SSA) at KK Faculty of Technologies and Landscaping, with the objective of promoting applied scientific research activities at the Faculty and of developing interdisciplinary research. It is too early to judge whether this initiative will prove successful.

KK regards the work done by students in their final thesis as applied research. In some cases, a thesis starts from a research question which has been formulated by a scientist but in most cases the final thesis discusses a problem/subject given by a food company. Such problems tend to lack a scientific basis and result in theses which do not follow a proper scientific approach. If problems are accepted from industry they should be sufficiently complex and encourage the student to explore the scientific background. In addition, students should pay more attention to proper citation and referencing. Although scientific databases are readily accessible in the study centre, the references used in final theses were often of poor scientific quality. Supervisors of the final theses should encourage the students to pay more attention to the scientific background of the topics covered and to scientific citations and references. Also, the Review Team suggest to College to pay more attention to the food safety and quality systems issues in the final theses. The students should analyse food products and adapted specific legislation on safety, microbiological criteria,

contaminants, food additives, food enzymes, flavouring, etc. It is important that graduates of FSQ SP are familiar with EU legislation relevant to food industry. When the Review Team evaluated some of the final theses written by students, it was apparent that students were not sufficiently familiar with recent legislation. Besides, each thesis has a one page summary in English but the sample seen by the Review Team did not have a good standard of English. Students need assistance in this area.

Students may participate in mobility programmes under Erasmus+ programme or through bilateral/trilateral cooperation agreements. During 2012/2014, 13 students of Food Safety and Quality study programme participated in mobility programmes. Student participation in mobility programmes varies from year to year (2013/2014 it was 4.6%; 2012/2013 – 1.2% from the total number of students). This is far too low, well below the European target of 20% of all students to have studied outside their home country by 2020. Efforts will have to be increased in this regard. During the interview with the management this issue was addressed by the Review Team. The management was aware of the problem. Also, when seeking to increase the number of students going abroad on mobility programmes, the College should also seek to increase the number of students and staff coming to KK from abroad on mobility programmes.

During a meeting with the Review Team, some students stated that there are difficulties in having credits earned outside Lithuania applied to a student's academic record. As a result, students have to earn extra credits after returning from study abroad. The College should address this problem and if it is solved should allay student fears in this respect.

The study programme students are given regular academic, information-consultation and methodological support. Students are also provided with social and organizational support. Facilities for disabled students are in place. KK provides sufficient student dormitories that all students can be accommodated if they so wish. The students confirmed that the facilities offered at the dormitory were satisfactory. The Student's Association organises cultural, social and sports events. It also seemed to the Review Team that there were another several actions and procedures that should help and motivate students during their studies, e.g. specific welcome of first year students, group mentors, consultations and national student conference.

Student assessment at KK is based on a system they call Individual Cumulative Assessment (ICA). A ten point grading system is used to measure the extent to which students have achieved the learning outcomes of each subject. The assessment comprises several constituents (interim tests, practical work, self-study works and an examination). The assessment system is established in the "Study Process Procedure" and is publicly available. The assessment criteria are directly linked to the intended learning outcomes. Students' final theses are assessed by five or more members of a Qualification Commission which comprises the Head of Department, a teacher and three employer

representatives. The Review Team considered the assessment system of students' performance to be clear, adequate and publicly available.

Since 2011, the FTD has conducted surveys among programme graduates about their employment. Approximately 25% of graduates who responded are working in the area of their specialisation and about 8% of study programme students find employment in the companies where they performed their professional practice. During the discussion with graduates and social partners, it was mentioned that students have sufficient knowledge on food safety, quality, and technology and could work independently. It seemed that graduates meet the programme providers' expectations in that respect. Social partners also claimed to be very satisfied with the qualities of the graduates of FSQ SP. But although, data presented in the SER demonstrates that during the period assessed 47% students do not work according to their specialist qualification. The Review Team concluded that it is necessary for KK management to review with employers the number of graduates required per annum.

2.6. Programme Management

The FTD staff and the Programme Committee are responsible for the quality assurance of FSQ SP study process. KK is using the electronic document management system "Kontora". Students, teachers and social partners are represented on the Study Programme Committee. On the occasion of the presentation and defence of the final theses, the learning outcomes of the FSQ SP are discussed with stakeholders. Generally, teachers, social partners, graduates were satisfied with the content of the study programme and with the extent to which they were consulted about changes. Employers particularly appreciated the strong practical skills and the "down to earth" approach of the College.

The College implemented an internal quality assurance model based on the principles of Total Quality Management. The College established an Office of Strategic Planning and Study Quality Management to assure effective internal quality assurance in the College. KK has followed best practice in its implementation of quality assurance measures and its procedures are in line with European Standards and Guidelines. The Review Team, during the discussion with the teachers concluded that there is an internal assurance system which is cyclical and is implemented via annual self-evaluation activity and the measurement of study programme quality. All levels of KK staff are involved in annual self-evaluation: teachers, department, faculty, college and the results of annual self-evaluations are used for improving the study programme. Therefore the Review Team decided that responsibilities for decisions and monitoring of the implementation of the programme are clearly allocated.

There is also clear evidence that the College has implemented the recommendations of the

2012 SKVC review and has thereby improved the programme. The KK management has outlined to the Review Team how each of 12 recommendations made by the Expert group in 2012 have been implemented; for example it was recommended that the college takes steps to increase the appeal of the programme and this has been done by introducing Career Days, putting information notices in the media, visits to schools, etc. Another recommendation in the 2012 report was that KK should enhance its research profile and this has resulted in the acquisition of specialist equipment for research, hiring of highly qualified staff (PhDs) and internships outside Lithuania. The Review Team was satisfied with the progress made in the implementation of actions in line with the recommendations of the 2012 report.

The Review team noted that data on the implementation of the programme is collected regularly and is analysed. There are regular surveys among students at the end of each semester and the outcomes are discussed by the Programme Committee. Employers were happy with the level of consultation between them and the programme management team. Graduates also mentioned that they had been consulted by e-mail on proposed changes to the programme and they had submitted their comments. Each year since 2011, the FTD has monitored the activities of graduates after graduation. Data presented in the SER, demonstrate that during 2012/2014, 52% of the graduates found employment in food industry or continued their education in other HEIs while others go abroad, take maternity leave, etc. Although graduates were consulted in this manner, it seemed to the Review Team that graduates might have a more central role in the process. All in all, on the basis of the approach being taken by KK management and the satisfaction of all stakeholders, the Review team concluded that data on the implementation of the FSQ SP is regularly collected from students, teachers, graduates and employers and analysed by the Programme Committee.

Social partners testified that their experiences with students during practice in the companies are reported upon and that these reports are taken into account by the College. Social partners participate in the improvement of study quality directly and indirectly. A social partner is involved in the activities of the FSQ SP programme committee and the FSQ SP self-evaluation preparation group. The Qualification Commission which assesses the final theses has a majority of members who are social partners. There is evidence that employers are involved in processes for the improvement of the programme. Other indicators prove the contact between College and stakeholders: the number of cooperation agreements with social partners (students reported they had no difficulty obtaining an internship in a company that has an agreement with KK), the College is a member relevant Food associations including the Lithuanian Meat Association, the number of cooperation agreements with the departments of other Higher Education Institutions (there are six agreements with Lithuanian universities). So, the college has been meticulous about involving all stakeholders in its quality assurance processes (as described above) and all the parties to the process

expressed themselves as satisfied with the operation of the quality assurance procedures.

On the other hand, during the meeting with social partners it became clear that only large enterprises can afford to employ graduates from the FSQ SP. The Department refers to this changing job market which is the result of changes both in technology and in economy. Since many of the Lithuanian food companies are SME's, the Review Team concluded that the future labour market needs continuous attention. What is more, the review Team has identified some areas for further improvement regarding the relationship with graduates. The consultation with graduates (by email) could be improved by greater formalisation while the consultation with employers should be extended beyond those who currently offer places to students. It would be revealing to establish contact with employers who *do* not employ graduates and do not offer placements to students. While the Review Team would like to see further improvements as outlined above, it was satisfied that the College internal quality assurance measures are effective and efficient.

2.7. Examples of excellence *

The new KK Study Centre, opened in 2014, has an integrated library and Information Resource Centre. Students of all study programmes and teachers can use interactive whiteboards, computer workstations, funds and a library with databases. There is a new modern reading room and a linguistic classroom for foreign language studies. Students with disabilities have the opportunity to access the Study Centre too. This could be a good example for other educational institutions.

KK is a good example of cooperation with the social partners. The College not only has cooperation agreements with the food companies, they also organize seminars, provide the latest information on food safety and quality and scientific research. The well-equipped laboratories are used by the social partners for processing of experimental production. It strengthens the cooperation between partners. The College is a member of the food industry associations, such as Lithuanian Meat Processors associations. During the meeting, the President of Lithuanian winemakers association informed the Review Team that teachers helped to develop a new business in Lithuania.

III. RECOMMENDATIONS

1. Attention should be given in the programme to the teaching of the implementation of general HACCP principles, flexibilities for all students. Audit of food safety should be added too in the study programme.
2. Regarding EU and national food legislation, teachers and students should be aware of the latest food legislation and the Review Team suggests adjustment of the syllabuses as appropriate in the study programme. Attention should be given to legislation on food additives, flavoring substances, enzymes, food contact materials; also legislation on food contaminants.
3. The College should consider making the subjects “Basics of Marketing” and “Sensory Evaluation of Food and Consumer Surveys” compulsory, because of their importance for the future food technologist and food safety specialists.
4. The College should try to intensify the study of foreign languages. This creates more opportunities for student mobility.
5. The College should pay more attention to the food safety and quality systems issues in the final theses. The students should analyse food products and adapted specific legislation on safety, microbiological criteria, contaminants, food additives, food enzymes, flavouring, etc.
6. The teachers should be encouraged to increase research related to food technology and food safety. This will have to go together with more investment to upgrade the laboratory facilities and theoretical knowledge of food safety and quality.
7. Efforts must be made to improve the quality of final theses, by paying special attention to the bibliography; it should be based on updated and trustworthy sources, the latest food legislation should be used. The student final theses include a one-page summary in English.
8. The College should seek to increase student participation in mobility opportunities and should ensure that credits earned by students on mobility are easily applied to their academic record.
9. Concerning mobility activities, efforts should be made to further increase the number of incoming teachers and students.
10. The number of students recruited has fallen in recent years. The College should seek to increase the number recruited for both full-time and part-time programmes.
11. The role of graduates in the process of programme improvement should be developed further.

IV. SUMMARY

The overall aim of the Food Safety and Quality study programme is to produce specialists who can assure food quality and safety within the entire chain of food production, can evaluate the quality of raw materials, ensure the implementation of technological processes, assess and control safety hazards and supply the market with safe and high quality products. The aims and intended learning outcomes are well defined and focussed on academic and professional requirements, public needs, as well as on labour market needs and in accordance with the name of the programme.

The links between study programme aims, learning outcomes and study subjects have been developed by the programme team and are convincing. The programme aims, learning outcomes and the content of the subjects are consistent with the level of studies and the level of qualification offered, a Professional Bachelor degree. The programme provides a foundation in the relevant sciences in the early semesters and builds upon that foundation to develop key competences in Food Technology, in Lithuanian and European Food Law and in Food Safety. The subjects covered in these specializations are based on the main activities of the Lithuanian food industry. The learning outcomes of FSQ SP are improved every year after the final theses are defended and the remarks and recommendations of the Qualification Commission and stakeholders' comments are considered.

Whilst students and graduates both from full-time studies and part-time studies were generally satisfied with the curriculum offered, the Review Team recommended some changes. Attention should be given to the course on the implementation of general HACCP principles, flexibilities for all students, and Audit of Food Safety should be added in the study programme. The subjects "Basics of Marketing" and "Sensory Evaluation of Food and Consumer Surveys" are currently subjects of free choice but the College should consider making these subjects compulsory for FSQ and FT SP. The Review Team also suggests to add topics of EU food legislation on food additives, flavoring substance, enzymes, food contact materials, food contaminants, food waste in the study programme.

The FSQ SP uses different laboratories: chemical analysis, microbiology, food quality analysis, process and apparatus, and sensory evaluation. The laboratories are well maintained and sufficiently equipped for educational purposes. For practical technology training the FSQ SP has different facilities at its disposal: laboratories for the production of bread, confectionery, meat products, dairy products and fermentations. These laboratories are equipped with instruments and devices used in typical small food processing businesses. These devices are ideal to simulate processing in full-scale technologies. The Review Team concluded that the premises for practical work are adequate to support the programme aims and learning outcomes, capable of evaluating safety and quality aspects of technology innovations in various branches of the food industry.

The social partners used the laboratory facilities of College for processing of experimental

production. It strengthens the cooperation between KK and industry. The Review Team advises the College to look at research opportunities when investments are considered in laboratory facilities.

The Review Team was particularly impressed by the facilities of the new KK Study Centre which combines a library of scientific literature with computer workstations with online access to scientific databases. The students can use open and closed workspaces equipped with desktop computers and interactive whiteboards for individual and group work.

There are 28 teachers for this programme and they are all qualified to at least Master's degree but 22% have a PhD. As well as their academic qualifications, all have direct experience of industry and nine of the teachers have a specialisation in relevant Food Safety and Quality domain. The teachers are active in applied research and they participated in 60 conferences (of which 54 were in Lithuania) in the period 2012-14. The qualifications of the teachers, working in this programme, are sufficient in order to reach study objectives and results.

The College organizes seminars and training for food industry. Representatives of the social partners specifically mentioned the good quality of these seminars.

Students may participate in mobility programmes under Erasmus+ programme or through bilateral/trilateral cooperation agreements. The College should seek to increase student participation in mobility opportunities and should ensure that credits earned by students on mobility are easily applied to their academic record.

The students are well prepared for their internship in industry and the arrangements for internships are very good.

College has an internal quality assurance system. The results of the quality analysis and measures taken as a result of this analysis are made publicly available through the College website and several publications. The Review team noted data on the implementation of the programme is collected regularly and is analysed. There is also clear evidence that the College has implemented the recommendations of the 2012 SKVC review and has thereby improved the programme. The Review Team was satisfied that the College's internal quality assurance measures are effective and efficient and furthermore that they are in line with European Standards and Guidelines. To this extent the programme is sustainable and is clearly focused on the employment market in Lithuania. The review team have made their recommendations in this context and in summary believe that the programme will increase its relevance and significance by introducing more systematic links with employers and alumni, both to strengthen the practical component of the programme and ensure the currency and future proofing of programme learning outcomes; by systematically ensuring that teaching and learning approaches support the acquisition of cognitive and practical skills required by employers and by improving in programme evaluation of the student experience.

V. GENERAL ASSESSMENT

The study programme *Food Safety and Quality* (state code – 653E43002) at Kaunas College is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Teaching staff	3
4.	Facilities and learning resources	4
5.	Study process and students' performance assessment	3
6.	Programme management	3
	Total:	19

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

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

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

4 (very good) - the field is exceptionally good.

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