



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Marijampolės kolegijos

**STUDIJŲ PROGRAMOS *INFORMACINIŲ SISTEMŲ  
TECHNOLOGIJOS* (valstybinis kodas – 653E15008)**

**VERTINIMO IŠVADOS**

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**EVALUATION REPORT**

***OF INFORMATION SYSTEMS TECHNOLOGY (state code –  
653E15008)***

**STUDY PROGRAMME**

At Marijampolė College

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Išvados parengtos anglų kalba  
Report language – English

Vilnius  
2016

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Informacinių sistemų technologijos</i>
Valstybinis kodas	653E15008
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3 metai), iššęstinė (4 metai)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informacinių sistemų inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2012 m. kovo 30 d. įsakymu Nr. SR-1688.

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## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Information Systems Technology</i>
State code	653E15008
Study area	Technological Sciences
Study field	Informatics Engineering
Type of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time studies (3 years), part-time studies (4 years)
Volume of the study programme in credits	180 ECTS
Degree and (or) professional qualifications awarded	Professional Bachelor of Information Systems Engineering
Date of registration of the study programme	30 <sup>th</sup> March 2012, under the Order of the Minister of the Ministry for Education and Science of the Republic of Lithuania No. SR-1688.

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 The Centre for Quality Assessment in Higher Education

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## I. INTRODUCTION

### 1.1. Background of evaluation process

The evaluation of on-going study programmes is based on the **Methodology for Evaluation of Higher Education Study Programmes**, approved by the Order No 1-01-162 of 20<sup>th</sup> December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter, SKVC). 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 the Self-evaluation Report (hereinafter, the SER) prepared by a Higher Education Institution (hereinafter, the HEI)*; 2) *a visit of the Review Panel at the higher education institution*; 3) *preparation of the evaluation report by the Review Panel and its publication*; 4) *follow-up activities*.

On the basis of the study programme external evaluation SKVC takes a decision to accredit the study programme either for 6 years or for 3 years. If evaluation of the programme is negative such programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas were 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 SKVC. Along with the Self-evaluation Report and Annexes, the following additional documents have been provided by the HEI before, during and/or after the site-visit:

No.	Name of the document
1.	Marijampolė College Feedback
2.	Marijampolė College Specify Data
3.	MC IST Full-time Study Plan

4.	MC IST Part-time Study Plan
5.	Marijampolė College Practical Experience
6.	Practices Marijampolė College Additional

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

Marijampolė College (hereinafter, the College) is a public college that was founded in 2001 and it is the only higher education institution in the southwestern part of Lithuania. The College has two faculties and offers 13 study programmes with emphasis on practical training.

*Information Systems Technology* is a three-year Professional Bachelor programme for full-time students, and four-year for part-time students. The study programme, started in 2012, is hosted by the Technologies Department in the Faculty of Business and Technologies.

### ***1.4. The Review Panel***

The Review Panel was composed according to the *Description of the Review Team Member Recruitment*, approved by the Order No 1-01-151, 11/11/2011 of the Director of the Centre for Quality Assessment in Higher Education. The visit to the HEI was conducted by the Panel on 28/04/2016.

#### **1. Prof. Frode Eika Sandnes (Chair of the Team)**

*Professor at Oslo and Akershus University College of Applied Sciences, Norway.*

#### **2. Prof. Jürgen Dorn**

*Professor at Vienna University of Technology, Austria.*

#### **3. Prof. Kari-Jouko Räihä**

*Professor at University of Tampere, Finland.*

#### **4. Assoc. Prof. Jaanus Pöial**

*Associate Professor at Estonian IT College, Estonia.*

#### **5. Mr Juozas Breivė**

*IT Security Officer at Klaipėdos Nafta, SC, Lithuania.*

#### **6. Ms Ieva Ulevičiūtė**

*3<sup>rd</sup> year student in Applied Mathematics (first cycle) study programme at Vilnius University, Lithuania.*

## II. PROGRAMME ANALYSIS

### 2.1. Programme aims and learning outcomes

The study programme's aim is to educate students for the labour market in the area of information systems. The SER declares that graduates shall be "able to develop and support a high level of organizations' information systems, operate and maintain computers and their systems' hardware and software, create, operate and administer computer networks, create and administer websites at a private or a state organization; to train a creative specialist, able to communicate, work in a team and be responsible for the results of his/her activities".

According to the College management, the aim is motivated by the needs of local businesses and general market needs. In discussion with social partners of the region these aims were confirmed.

The aim shall be achieved by 21 intended learning outcomes listed in Table 1.1.4 of the SER and those are assigned clearly to 30 study subjects of the curriculum. The aims and intended learning outcomes of the programme are described consistently and clearly, accordingly to European standards and documents.

In discussion with different stakeholders and by analysing the content of the study subjects, the Review Panel got the impression that programming should be included as an important additional intended learning outcome of the study. Moreover, the general study subjects, such as *Professional Foreign Language I*, *Professional Foreign Language II*, *Language Culture and Professional Ethics* and *Sociology* as well as some of the study field subjects, in particular *Law*, *Human Safety*, *Physics* and *Electrical Engineering*, do not appear sufficiently linked to the intended learning outcomes. Additionally, the Review Panel suggests that teamwork gets a more visible place in the intended learning outcomes.

In general, the programme aims and intended learning outcomes are consistent with the type and level of studies and the level of qualifications offered.

The study programme, as well as the intended learning outcomes are published on the Web<sup>1</sup>. All applicable Lithuanian laws in terms of definition of programme aims and intended learning outcomes appear to be regarded. The name of the study programme is compatible with the aims and content of the study. However, a minor shift from general knowledge to more practical IT skills such as programming is recommended.

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<sup>1</sup> <http://www.old.marko.lt/lt/stojantiesiems/studiju-programos/informacini-sistem-technologijos>

## 2.2. Curriculum design

The study programme comprises of 180 ECTS, which is consistent with regulations for professional bachelor study programmes in Lithuania<sup>2</sup>. The volume for the full-time and part-time forms of study are equivalent. The study programme description lists 15 ECTS general subjects, which is the minimum required by law<sup>3</sup>. However, the actual number can be considered to be more than 15 ECTS as the study subjects *Mathematics* and *Mathematical Statistics*, *Physics*, *Electrical Engineering*, *Business and Management Fundamentals*, *Human Safety* and *Law* also can be classified as general subjects since these are not central to Technologies of Information Systems. The study field subjects total 165 ECTS of which 96 ECTS are actually the field subjects, 30 ECTS are allocated to professional practice (including practice integrated into the study subjects), 9 ECTS are optional subjects, 21 ECTS are specialisation subjects and the final thesis comprises of 9 ECTS which is the minimum legal requirement<sup>4</sup>. However, the Review Panel would highly recommend that the College maintain focus on providing students with supervised practice in authentic work environments and less focus is put on integrated into the study subjects' practice. Graduates of Informatics Engineering study programmes need practical knowledge on how companies and businesses develop, test and deploy software in practice. Often the real-world practices are more complex than what is described in the textbooks and classroom teaching cannot fully substitute workplace practice. For example, practices for deploying software in a production environment hosted on virtual and cloud based infrastructures have changed dramatically in recent years, and may take many years before these recent practices are described in the textbooks. In Informatics Engineering, the state of the art is usually several years ahead of printed textbooks and the curriculum of higher education institution. Supervised practice in relevant work environments is thus an effective and widely acknowledged remedy for closing these knowledge gaps.

The study subjects for both the full-time and part-time variations of the study programme are spread evenly, with one noteworthy exception. There are no programming related study subjects in the first semester. Students interviewed expressed a desire to be introduced to programming already from a day one. Students may be demotivated having to start with subjects that do not

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<sup>2</sup> Order of the Minister for Education and Science of the Republic of Lithuania "General Requirements of First Degree and Integrated Study Programmes".

<sup>3</sup> Order of the Minister for Education and Science of the Republic of Lithuania "General Requirements of First Degree and Integrated Study Programmes".

<sup>4</sup> Order of the Minister for Education and Science of the Republic of Lithuania "General Requirements of First Degree and Integrated Study Programmes".

match their academic interests in the beginning. This may consequently lead to some students dropping out. The College is thus recommended to introduce programming during the first semester to fuel students' enthusiasm for learning. There does not appear to be any repetitive themes in the study programme.

The contents of the study field subjects in the *Information Systems Technology* study programme are relatively consistent with the type and level of Information Systems Engineering studies worldwide although there could be more programming. However, compared to other similar study programmes around the world there appear to be too many unrelated study subjects, both general subjects and study field subjects. In particular, the Review Panel is not convinced that students will be able to acquire several foreign languages such as German and Russian with a useful level of fluency. Moreover, study subjects such as *Sociology*, *Physics* and *Electrical Engineering* may divert too much focus away from essentials of Technologies of Information Systems. Although general skills, knowledge and competences are useful for a lifelong career with many changes, the College should consider including some of these general topics into the context of the study programme. For example, *Principles of Sociology* could for instance be introduced in the relevant parts related to user behaviour in *Website Development Fundamentals* and *Interactive Multimedia*, or social engineering in context of *Security in Internet Technologies*.

The profile of the study programme is characterised by a wide coverage of topics with limited depth of coverage for subjects central to Technologies of Information Systems. However, the scope of the programme is sufficient to ensure the achievement of the intended learning outcomes.

The content and methods of the study subjects are appropriate for the achievement of the intended learning outcomes. Moodle is used as learning management system and the College hosts a Mikrotic academy.

The contents of the programme cannot be fully said to reflect the latest achievements in science and technologies. For example, the programme has several subjects related to website development. However, there is no mention of user-centric development processes and website prototyping in the study subjects' descriptions. User-centric processes and prototyping are essential for successful development of information systems and these techniques are widely used by professional web designers and developers. Security is only briefly mentioned in a few of the study subjects. Security should be emphasized more in the study programme in the light of current cybersecurity threats around the world.

### ***2.3. Teaching staff***

The teaching staff of the programme consists of 21 teachers, 14 of whom are full-time employees of Marijampolė College, and 7 are guest lecturers. The average age of the staff is 48 years. For a programme in a rapidly changing field such as Information Systems Technologies, it is important with renewal in the teaching staff to ensure that their competences are consistent with the state of the art. During the reporting period there have been two changes in the teaching staff of the programme, but also in these cases the teachers were already employed by the College. The programme is still quite young, but the Review Panel recommends more renewal, for instance by using part-time teachers from companies.

According to the list of teachers' CVs provided by the College (Appendix 1 of the SER), 5 of the teachers (24%) hold PhD degrees. However, none of those with a PhD work full-time in the programme. Most of them hold positions in other higher education institutions (most often Kaunas University of Technology). The Review Panel learnt during the site visit that they typically spend one day of the week at Marijampolė College. They are committed to the work in the College by, e.g. supervising many final theses. However, one day a week seems unlikely to be sufficient for these teachers to be an integrated part of the College community. Financial terms (i.e. salary) limit the possibilities, but the College is still recommended to intensify efforts to have some teachers with a PhD relevant to Information Systems Technologies in the full-time staff.

According to the study subjects' descriptions, the share of study field subjects taught by PhD holders is 30 ECTS, or 16.6% of the study programme. Of the study field subjects that are central to Informatics Engineering 24 ECTS are taught by PhD holders (13.3%). The statutory condition that "no less than 10 per cent of the subjects in the study field should be taught by scientists" (which in this context means teachers with PhD) is thus satisfied.

In addition, according to the Order of the Minister for Education and Science of the Republic of Lithuania "General Requirements of First Degree and Integrated Study Programmes", one more important condition to be met by the teaching staff of a college study programme is that "over half of the teaching staff (...) should have at least 3 years of practical experience in the subject field they teach". According to Appendix 2 of the SER, all but one of the teachers have more than three years of practical experience, with the experience ranging from 4 to 33 years. From Appendix 3 of the SER (Description of the Activities of the Professors), it is not clear how such high figures have ended up in Appendix 2. According to supplementary documentation provided

by the College after the site visit, 12 of 20 teachers have at least three years of practical experience related to the study subject that they teach. The legal requirements are thus met, although with a narrow margin. The study programme is thus vulnerable to teaching staff leaving the College. Moreover, the practical experience of some of the teachers can be considered weak with regards to the relevance to the subjects taught. For instance, the staff teaching *Website Development Fundamentals*, *Electronic Publishing*, *Interactive Multimedia*, *Mathematics and Mathematical Statistics*, *Software Engineering Fundamentals*, *Algorithms and Data Structures*, *Human Safety*, *Physics*, *Electronic Business* and *Engineering Graphics* have only teaching experience and no documented experience from businesses and companies related to the respective study subjects. The College is therefore recommended to carefully monitor the situation and take steps to improve the quantity, quality and relevance of the teaching staff's practical experience.

In terms of staff scientific activity, three of the part-time teachers have published articles listed in DBLP (the computer science bibliography at the University of Trier) that covers broadly the international publications in the field. No such activities have taken place for the full-time teachers. Given that the student/teacher ratio is only 1.9, with a total of 39 students studying in the programme, it seems that the teachers should have enough time to be involved in research activities. In reality, the figure is not this small, as teachers share their time between several programmes. On a positive note, the teachers received praise from the students for being helpful and easily approachable whenever needed.

Insufficient English knowledge of the teachers is mentioned as a weakness in the SER. A systematic improvement of the language skills is advisable. The Review Panel learnt that the College has already for three years supported the participation of teachers on English courses by subsuming half of the cost. This initiative is commendable and should be continued.

The teachers' international activity could be increased as well. Six teachers of the study field subjects have carried out visits to foreign institutions, but there are no reports on international visitors to the *Information Systems Technology* programme at Marijampolė College. The internationalisation is in early stages, but efforts for more Erasmus+ exchange contracts and attracting also incoming visitors should be intensified.

#### ***2.4. Facilities and learning resources***

There are good conditions for students in the classrooms in terms of hygiene norms, according to HN 129:2012 “Higher educational institution. General occupational health and safety requirements“(Official Gazette Valstybės Žinios, 2012, No.: 24 - 1133), and technical facilities.

There are five classrooms equipped with computers and a classroom with distance learning equipment. Students often use their own computers and this could be a challenge because of a lack of electricity outlets in the classrooms.

The College is a member of Eduroam, the international roaming service that allows all participating institutions to use one wireless communication user authentication system around the world. This is a highly useful service to teaching staff and students.

Microsoft Office 365 is used at the College allowing academic services to be concentrated in one place. Office 365 provides academic staff with functionality to easily cooperate with each other. Students and teaching staff can use the latest Microsoft software products in the study process through the Microsoft DreamSpark programme. Many of these software products are de facto standards in industry. ZWCad is used as a low-cost alternative of AutoCAD.

Marijampolė College was the first Mikrotik academy in Lithuania. The Mikrotik facilities allow students to get relevant knowledge, practice and certification after completing the subject in computer networking. There is also potential for the Mikrotik facilities to be used as a marketing tool to attract students nationally.

The College has some laboratories in a separate building for student’s practical work with mostly general subjects such as Physics and Electronic Engineering. The meeting with the management revealed that there are plans to extend the laboratories and implement new computer science laboratories such as computerized process management, computer networks and multimedia. The Review Panel was assured that the real estate for these facilities has already been allotted and the financing is currently being finalized.

The library fund consists of mostly outdated IT literature, some of which are nearly 20 years old. Moreover, the SER states that the majority of the library funds go towards Social Sciences related literature. However, the students did not view this as problematic, as they reported that they generally did not use the library textbooks for their studies. The teachers and students

interviewed stated that the College provides e-books relevant to the study programme that covers the learning material needs.

The library offers the possibility to connect to the American Centre under the US Embassy and other Lithuanian science institutions. These resources seem to compensate for the lack of literature relevant to the study programme on site. However, the eight workstations in the library may be a bottleneck if these are used by all the students at Marijampolė College.

### ***2.5. Study process and students' performance assessment***

The admission requirements are well-founded. The competitive entrance grade is based on the applicants' results in Mathematics (weighted with a factor of 0.4), as well as applicants' results in Lithuanian Language, Information Technologies and Foreign Language (each weighted with a factor of 0.2). The Review Panel was unable to find any information about the admission requirements on the English version of the College website. According to the SER, the lowest competitive grades of entrants have declined from 5.7 in 2012 to 0.96 in 2015. The entrants' competitive grades should therefore be monitored closely since there usually is a correlation between competitive grades and study success.

The organisation of the study process ensures the achievement of the intended learning outcomes. Four of the intended learning outcomes address the performance of companies and business start-ups, in particular to analyse company's activity and processes, identify consumer's needs and information system requirements, identify the need for information technologies and operational opportunities, work with legal documents, regulating company's activity and prepare database project satisfying company's needs. To support these goals the curriculum includes several subjects related to business, management and social skills' improvement. However, study subjects such as *Physics, Electrical Engineering, Sociology*, etc. should be made more relevant to support the entrepreneurial oriented intended learning outcomes and be of practical value to students' future career. Students should also be systematically trained to collaborate in teams and accustomed to the working practices in regional businesses.

The focus of the College is on education and professional practice, and students are therefore moderately encouraged to participate in research activities. Students' final theses showed that students are encouraged to do applied research relevant to the needs of local companies and institutions. However, the Review Panel did not come across any evidence to suggest that

students are involved in any research activities during their studies besides the final thesis. The College is encouraged to include more research activities into the curriculum.

The students are encouraged to participate in mobility programmes. The College is working to improve the opportunities for students by searching for new partners abroad. For instance, a new agreement was signed with The State School of Higher Education of Ciechanów (Poland), and three students have planned to go to Ciechanów on exchanges on the next semester. The number of outgoing students is low. Only four students of *Information Systems Technology* study programme participated in the Erasmus Intensive Programme during 2012-2014. However, the site visit revealed that the situation is changing and that more students are expected to participate in Erasmus internships. The Review Panel would suggest that students are also encouraged to participate in exchange programmes in addition to Erasmus internships.

The College provides the students with adequate assistance. The full-time students can receive scholarships, according to the approved legal provisions. Students may receive motivational scholarships and a one-off scholarship depending on their academic achievements. Students who achieve good grades and actively participate in the College activities are allocated rotary scholarships. Moreover, financial assistance is provided to disabled students, whose working capacity is 45% or lower. All the full-time and part-time students are guaranteed dormitory accommodation. The Career Centre and the Study Programme Committee supervise the students in practice placements.

The assessment system of the study subjects is clearly explained in-class at the beginning of each semester and made available electronically. The final assessment of each study subject is composed from the results from intermediate tests and the exam. The exam counts for 50% or more. The final assessments are uploaded onto the Moodle system where students log in and check their results. The final theses are evaluated by a Committee with representatives of employers and teachers of the College and other higher educational institutions.

So far, only one batch of students of the *Information Systems Technology* study programme has graduated and it is therefore difficult to perform an extensive analysis. According to the SER, around 36% of the graduates are employed according to the field of study (5 out of 14). During the site visit it was claimed that the current employment numbers are higher as all previously unemployed students have jobs according to their speciality giving a total of 50% (7 out of 14). From the collected data it can be concluded that the professional activities of the majority of graduates meet the programme providers' expectations.

## ***2.6. Programme management***

The quality management system of the College comprising 28 procedures was certified according to ISO 9001:2008 in 2013. Central to the *Information Systems Technology* study programme is the Study Programme Committee that oversees the study programme. The Study Programme Committee regularly analyses data collected through surveys and suggests changes that are implemented by the Department. In addition, the Academic Council is responsible for the overall framework for study programmes at the College and several administrative Departments provide key services to the study programme such as data collection, in particular the Study Department and the Career Centre. The interviews revealed that most of the issues associated with the study programme were handled by the teachers or the Study Programme Committee outside the quality management system. This could be problematic, as issues of strategic importance may not reach the College level management, for instance investment in infrastructure, and the hiring of teachers.

At the end of each semester, the Study Programme Committee analyses students' feedback on the quality of teaching and the professional preparation for each study subject. The questionnaires are updated every year. Graduates and employers are also surveyed. The regular collection of feedback enables the study programme to be regularly updated. However, some of the interviewed graduates and students stated that some teachers were not motivated to participate in these quality improvement processes.

The social partners confirmed that they were invited to discuss improvements of the study programme by the College administration. Note that only three of the six social partners invited attended the meeting with the Review Panel. Although discussions with a few social partners are highly useful it could also pose as a challenge to the College as social partners have diverse and perhaps even diverging needs and competing agendas. For example, the interviews highlighted the diverging requirements in that one social partner emphasized the importance of German while another stressed the importance of Russian. As a supplement to round-table discussions, it may be useful to collect feedback from a wider and more diverse circle of stakeholders using structured questionnaires. The interviews also revealed that stakeholders were informed of changes resulting from their feedback on an informal and ad-hoc basis.

The SER documents several examples where the College is able to act on gathered information. However, the quality management system does not seem to have detected and adequately documented the lack of the teaching staffs' relevant practical experience in the field of

Information Systems Technologies and the imbalance between general subjects and Informatics Engineering subjects, such as programming. If such key issues are not effectively captured and documented by the quality management systems there are no means to analyse and implement relevant improvements. In fact, the description of the study programme management in the SER is the only area in which the College does not identify any weaknesses.

Although the stakeholders in the region provide valuable feedback that can help to improve the quality, there is a risk that these are micro level issues. Independent external evaluations, however, may provide macro level suggestions for improvement in line with global technological paradigm shifts and emerging trends. The study programme has only existed for four years and is thus relatively young. It has not yet been subjected to an external evaluation.

### III. RECOMMENDATIONS

1. *Reduce amount of general study subjects* not relevant to Information Systems Technologies, and introduce more programming.
2. *Introduce programming in the first semester* to motivate the students to continue their studies.
3. Continuously take steps to *ensure that subjects reflect the latest achievements in technologies*.
4. *Increase the number of full-time teaching staff with PhDs* relevant to Information Systems Technologies.
5. *Increase the ratio of teachers with relevant practical experience*.
6. Systematically ensure that students' teamwork skills are developed.
7. More *systematically collect, document and analyse feedback from a wider range of stakeholders*.
8. *Ensure that the evaluations focus on issues of importance* such that critical areas are identified and necessary action is taken.

#### **IV. SUMMARY**

The aim of the *Information Systems Technology* study programme is to educate general IT-specialists with sufficient understanding of business to serve the businesses in the region as well as with the entrepreneurial skills to start up new businesses. The intended learning outcomes adequately capture these aims.

The curriculum covers the intended learning outcomes quite well, but there is an imbalance between general subjects and technological subjects relevant to Information Systems Technologies. The College is therefore encouraged to make these general subjects more relevant to the study field. Moreover, the amount of programming should be increased, also from the onset of the first semester so that students are motivated to continue their studies.

The teaching staff meet the legal requirements. However, the College is encouraged to ensure that more of its full-time teachers obtain a PhD related to the study field. Having in-house teaching staff with PhD that are actively involved in research is likely to have positive effect as other teaching staff may get involved. The ratio of teaching staff with relevant practical experience is close to the minimum legal requirement. To have teaching staff with recent and relevant practical experience from the software industry is crucial to a professional study programme in Informatics Engineering. The College thus needs to focus their attention on the quality and relevance of the teaching staff's practical experience.

The facilities and learning resources are adequate to offer the *Information Systems Technology* study programme. This also is the case for the study process and students' performance assessment.

There are problems with the management of the study programme, as the systems seem unable to identify key issues that need attention. For example, the College believed that 95.3% of the teaching staff has relevant practical experience according to the SER, while it actually was closer to 50%. Moreover, the management and teaching staff seems convinced that the general subjects are adequate, while the students are unsatisfied. Adjustments must be made such that substantial and relevant issues are identified and documented, and that the College is able to act accordingly.

## V. GENERAL ASSESSMENT

The study programme *Information Systems Technology* (state code – 653E15008) at Marijampolė College is given a 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	2
3.	Teaching staff	2
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	2
	<b>Total:</b>	<b>15</b>

\*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.

Grupės vadovas: Team leader:	Prof. Frode Eika Sandnes
Grupės nariai: Team members:	Prof. Jürgen Dorn
	Prof. Kari-Jouko Räihä
	Assoc. Prof. Jaanus Pöial
	Mr Juozas Breivė
	Ms Ieva Ulevičiūtė

**MARIJAMPOLĖS KOLEGIJOS PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS  
INFORMACINIŲ SISTEMŲ TECHNOLOGIJOS (VALSTYBINIS KODAS – 653E15008)  
2016-07-14 EKSPERTINIO VERTINIMO IŠVADŲ  
NR. SV4-168 IŠRAŠAS**

<...>

**V. APIBENDRINAMASIS ĮVERTINIMAS**

Marijampolės kolegijos studijų programa *Informacinių sistemų technologijos* (valstybinis kodas –653E15008) vertinama **teigiamai**.

<b>Eil. Nr.</b>	<b>Vertinimo sritis</b>	<b>Srities įvertinimas, balais*</b>
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	3
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	2
	<b>Iš viso:</b>	<b>15</b>

\* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)

2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)

3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)

4 - Labai gerai (sritis yra išskirtinė)

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**IV. SANTRAUKA**

Studijų programos *Informacinių sistemų technologijos* tikslas – ugdyti visapusiškus informacinių technologijų specialistus, turinčius pakankamai žinių apie verslą, kad galėtų dirbti regiono įmonėse, taip pat turėtų verslumo įgūdžių ir galėtų pradėti naują verslą. Programos numatomi studijų rezultatai dera su šiais tikslais.

Iš esmės studijų turinys atitinka programos numatomus studijų rezultatus, vis dėlto programos bendrieji ir technologiniai, informacinių sistemų technologijoms aktualūs, studijų dalykai nėra tinkamai subalansuoti. Programos vykdytojams rekomenduojama užtikrinti, kad bendrieji studijų dalykai būtų labiau susieti su studijų kryptimi. Be to, reikėtų didinti programavimo apimtį ir įtraukti šį dalyką nuo pat pirmojo studijų semestro, siekiant, kad studentai būtų motyvuoti tęsti studijas.

Nors studijų programos dėstytojai atitinka teisės aktų reikalavimus, visgi programos vykdytojai turėtų užtikrinti, kad daugiau visu etatu dirbančių dėstytojų būtų įgiję mokslo daktaro laipsnį srityje, tiesiogiai susijusioje su kryptimi, kurioje yra vykdomos studijos. Jeigu kolegijoje dirbs dėstytojai, turintys daktaro laipsnį ir aktyviai dalyvaujantys mokslo tiriamojoje veikloje, tai galimai paskatins į šią veiklą įsitraukti ir kitus dėstytojus. Pažymėtina, kad reikiamos praktinės patirties turinčių dėstytojų skaičius yra artimas teisės aktais nustatytam minimaliam reikalavimui. Dėstytojai, turintys naujausios ir aktualios praktinės patirties, įgytos dirbant programinės įrangos pramonėje, ypač svarbūs informatikos inžinerijos krypties profesinio bakalauro studijų programai. Taigi, programos vykdytojai turi sutelkti dėmesį į dėstytojų praktinės patirties kokybę ir aktualumą.

Patalpos ir mokymosi išteklių yra pakankami *Informacinių sistemų technologijų* studijų programos vykdymui. Tą patį galima pasakyti apie studijų eigą ir studentų pasiekimų vertinimą.

Problemų kyla dėl studijų programos vadybos – esama sistema nesukuria prielaidų identifikuoti esminių programos silpnybių. Pavyzdžiui, remiantis savianalizės suvestine, programos vykdytojai mano, kad 95,3 proc. dėstytojų turi tinkamos praktinės patirties, nors iš tikrųjų šį reikalavimą atitinka tik 50 proc. dėstytojų. Be to, programos vadovai ir dėstytojai yra įsitikinę, kad bendrieji studijų dalykai yra itin svarbūs, nors studentai jais nėra patenkinti. Būtina pasirūpinti, kad sistemingai būtų identifikuojami ir dokumentuojami svarbiausi ir aktualūs probleminiai klausimai ir kad kolegija galėtų imtis atitinkamų priemonių reikiamu metu.

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### **III. REKOMENDACIJOS**

1. ***Sumažinti bendrųjų studijų dalykų***, kurie nėra tiesiogiai susiję su informacinių sistemų technologijomis, skaičių ir įtraukti daugiau programavimo dalykų.
2. ***Programavimo dalyką įtraukti į pirmąjį studijų semestrą***, siekiant motyvuoti studentus tęsti studijas.

3. Nuolat *užtikrinti, kad studijų dalykai atspindėtų naujausius technologijų srities pasiekimus.*
4. *Padidinti visu etatu dirbančių dėstytojų*, kurie mokslo daktaro laipsnį yra įgiję informacinių sistemų technologijų srityje, skaičių.
5. *Padidinti dėstytojų, turinčių atitinkamą praktinę patirtį, skaičių.*
6. Sistemingai užtikrinti, kad būtų ugdomi studentų gebėjimai dirbti grupėse.
7. *Grįžtamąjį ryšį rinkti sistemingiau ir iš platesnio socialinių dalininkų spektro, jį dokumentuoti ir analizuoti.*
8. *Užtikrinti, kad atliekant programos vertinimą didžiausias dėmesys būtų skiriamas svarbiausiems dalykams*, siekiant nustatyti labiausiai tobulintinas sritis ir imtis reikiamų veiksmų.

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