



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VILNIAUS VERSLO KOLEGIJOS  
**STUDIJŲ PROGRAMOS *PROGRAMAVIMAS IR*  
*INTERNETINĖS TECHNOLOGIJOS (653I13003)***  
**VERTINIMO IŠVADOS**

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**EVALUATION REPORT**  
**OF *COMPUTER PROGRAMMING AND WEB-***  
***TECHNOLOGIES (653I13003)***  
**STUDY PROGRAMME**  
at VILNIUS BUSINESS COLLEGE

Grupės vadovas:  
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Išvados parengtos anglų kalba  
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## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Programavimas ir internetinės technologijos</i>
Valstybinis kodas	653I13003
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Informatika
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3 m.), iššęstinė (4 m.)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Taikomosios informatikos programuotojo profesinis kvalifikacija
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2007 m. spalio 22 d. įsakymu Nr. ISAK-2038

## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Computer Programming and Web-technologies</i>
State code	653I13003
Study area	Physical Sciences
Study field	Informatics
Kind of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time (3 years), part-time (4 years)
Volume of the study programme in credits	180 ECTS
Degree and (or) professional qualifications awarded	Professional Bachelor of Applied Informatics, Programmer Professional Qualification
Date of registration of the study programme	22 of October 2007, under the order of the Minister of the Ministry for Education and Science of the Republic of Lithuania No. ISAK-2038

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The Centre for Quality Assessment in Higher Education

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## I. INTRODUCTION

The procedures of the external evaluation of the Vilnius Business College (hereafter, VBC or the College) *Computer Programming and Web-technologies* (hereafter, CPW) first cycle study programme were initiated by the Centre for Quality Assessment in Higher Education of Lithuania nominating the review panel formed by the head, Peeter Normak (Professor of Informatics, Institute of Informatics, Tallinn University, Estonia), Kari-Jouko Rähkä (Professor of Computer Science, School of Information Sciences, University of Tampere, Finland), Elmar Cochlovius (Professor, Department of Computer Science, Furtwangen University, Germany), Juozas Breivė (Information Systems Administrator, Western Shipyard Group, Klaipėda, Lithuania), employer representative, and Algirdas Kursevičius (Kaunas University of Technology, Lithuania), student representative.

For the evaluation the following documents have been considered:

1. Law on Higher Education and Research of Republic of Lithuania;
2. General Requirements of the First Degree and Integrated Study Programmes;
3. Procedure of the External Evaluation and Accreditation of Study Programmes;
4. Methodology for Evaluation of Higher Education Study Programmes.

The basis for the evaluation of the study programme is the Self-evaluation Report (hereafter, the SER), prepared in 2013, its annexes, the relevant legal acts, and the site visit of the review panel to VBC on 18 March 2014. The visit incorporated all required meetings with different groups: the administrative staff of the VBC, staff of the Information Technology Department, responsible for preparing the self-evaluation documents, teaching staff, students of all years of study, graduates and employers. The review panel evaluated various support services (classrooms, laboratories, library, computer facilities), examined students' graduation theses, and various other materials. After the review panel discussions and additional preparations of conclusions and remarks, introductory general conclusions of the visit were presented. After the visit, the panel met to discuss and agree the content of the report, which represents the review panel consensual views.

VBC is a private higher education institution founded in 1989 and offering Professional Bachelor degree programmes in three subject areas: philology, informatics, management and business administration. There are three academic departments at the College responsible for conducting the studies: IT Department, Economics and Business Management Department, Foreign Languages Department. The *Computer Programming and Web-technologies* Professional

Bachelor study programme was started in 2007, being a successor of the *Computer Programming* study programme that was started in 2001.

## II. PROGRAMME ANALYSIS

### *1. Programme aims and learning outcomes*

The self-evaluation group refers in the SER to the substantial and still growing general demand of Lithuanian enterprises for skilled IT-professionals. In the context of the Digital Agenda for Europe, published by the European Commission, specific expertise in the areas of Internet commerce, IT-security, and information and communication technologies is required to substantially contribute to economic growth in the future. In conclusion, the IT Department of VBC has renewed its Professional Bachelor study programme *Computer Programming and Web-technologies* in 2012. The programme aim is to educate future professionals who are fully qualified to work for IT enterprises in the areas of programming, computer networks, e-commerce and software projects. In the SER, the main objectives of the programme are therefore grouped in general competencies (e.g. to work in a team to apply specific knowledge) and professional competencies (e.g. to maintain hardware and software, to understand data structures and algorithms, to ensure security of information, to create information systems). These objectives are clear and consistent with the programme aims mentioned on the website of the VBC. However, the website does not contain an overview of the study programme nor the detailed description of the study subjects. A more open information policy might be helpful for potential applicants interested in the programme, in particular in the context with the websites of other institutions.

To specifically adjust the programme aims and the intended learning outcomes with current market needs, the IT Department has conducted a survey in spring 2013 with a number of IT enterprises and former graduates. This approach can be helpful to further refine and optimize the study programme. The results indicate that 75% of the employers assessed the preparation of graduates of the *CPW* programme as on average level, while 25% assessed it as poor. Important skills requested by potential future employers include: in-depth programming expertise, communication skills and team work experience. The panel recommends strengthening development of these competencies, possibly through additional study subjects. For example, a larger-scale student team project could be used to improve the situation and build up confidence into the programme, looking from perspective of the enterprises involved in the survey and beyond. This would be important seeking to secure the long-term sustainability of the programme – stabilize the number of applicants (that decreased from 32 in 2011 to 17 in 2012) and reduce the dropout rate (up to 50% of students already during the first study year).

The efforts can be identified in trying to address professional requirements in the curriculum. Due to the rapidly changing nature of the field, this is a challenging task. However, as outlined in the Digital Agenda for Europe, one predominant topic of Internet technology in general and of e-commerce, Web-based solutions and information systems in particular, is the increasing importance of IT-security – to build up a trust among all participants and stakeholders involved in these systems. As it is mentioned in the SER and in the description of the study subjects, IT-security is a part of the objectives. However, there is no dedicated separate study subject on this important topic and it might be difficult to teach it adequately as minor part of an Operating Systems or Networking study subjects.

In general, layout and content of the study programme as outlined in the SER, including study subjects descriptions, might contribute to a Professional Bachelor degree in applied informatics. However, for some topics it is not immediately clear, in which way they could be applied in potential work scenarios of an IT enterprise, e.g. the study subject “Simulation Base No.1” seems to focus on robots, which can be motivating for the students, but not likely to prepare them for their future jobs. On the other hand, during the site visit and in interviews conducted with alumni and social partners, it appeared that other topics, such as software engineering, software architecture, software project management and requirements engineering, software quality, testing and software maintenance are very relevant for future graduates and potential employers. They represent mainstream computer science subjects and require substantial effort and practice to be covered adequately. The importance of these topics is not clearly reflected in the curriculum and in the list of the study subjects. In the review panel’s point of view, the coverage of the programme should be defined more precisely: currently, several different topics are being lectured, which are not fully coherent but would benefit from being streamlined. At the same time, the training of basic principles and competencies of the profession could benefit from additional focus, emphasis and dedication. The content of the programme is more thoroughly discussed in the next subsection.

## ***2. Curriculum design***

The programme is designed to run over 3 years, and consists of 180 ECTS. This is the minimum required by Lithuanian law. There is also a plan for part-time mode to run over 4 years. The attention should be paid that part-time mode has been already offered, but due to insufficient number of applicants, after 2011 the College did not deliver it.

The programme consists of 15 ECTS for the general subjects of college studies, 135 ECTS for the subjects of the study field (including 30 ECTS for practice and 9 ECTS for the final paper), and 30 ECTS for the special study subjects and freely optional study subjects. This matches the legal requirements – the Order of the Minister for Education and Science of the Republic of Lithuania “General Requirements of First Degree and Integrated Study Programmes”. In principle, two specializations are offered for the electives: Computer Networks Administration and Internet Technologies. However, Computer Networks Administration specialization has not been selected by students for the last few years. The programme management should consider whether it is practical to keep that specialization in the curriculum.

There is no unnecessary repetition in the content of study subjects. It is understandable and useful that there might be some overlap in such study subjects as, Systemic Programming and Data Structures and Algorithms, since programming skills are cumulative and require certain amount of repetition to refresh knowledge learnt in previous courses.

Programming is introduced to the students using C++ and C#. Java enters the picture only later – in the third year study subject Object-Oriented Programming. However, there may be more demand for Java programmers in the labour market. As it is stated in the SER: “In February 2012 the Lithuanian Labour Exchange has offered more than 30 vacancies for IT professionals. Twenty of them have been designed for developers (Java, PHP, Android, etc.)”. The programme managers should consider the possibility to offer study subjects on modern technologies, such as Java and Ajax earlier in the curriculum.

The number of actual lecture hours, as reported in the study subjects descriptions, is sometimes surprisingly small. For instance, for Systemic Programming study subject there are only 14 lecture hours. It is clear that a lot of individual work and supervision in exercise sessions is needed for programming related topics – the breadth of topics for such a study subject is so broad, that it could benefit from more actual lecture hours. Similarly, for Data Structures and Algorithms study subject there are only 10 lecture hours. The guidance of individual work leaves quite a lot at the decision of individual teachers – whether to organize group sessions or individual tutoring. Such decisions should be described in the study subjects’ descriptions.

Some of the study subject descriptions seem to follow the required formal structure without having been thought out in detail. For instance, in Systemic Programming study subject, the learning and teaching methods are the same (lecture, practice, brainstorming) for all five study subject intended learning outcomes, even for: “A graduate is able to test and debug the created



programs”, – the question arises, is that really taught through brainstorming? Another example is Information Systems Design study subject, where: “Lectures, practical classes, analysis of examples, self-dependent work” are used for all five study subject intended learning outcomes, and similarly: “Practical tasks assessment, test, self-dependent work assessment” are assessment methods for all five intended learning outcomes.

For most study subjects, the intended learning outcomes fit quite well the programme intended learning outcomes, but there are important exceptions. In the SER and in the meetings with different stakeholders the importance of students’ ability to work in teams came up repeatedly. Indeed, “to work in a team” is part of the first objective of the study programme provided in the SER. A related intended learning outcome is 1.2, which contains: “A graduate is able ... to work in a professional team self-dependently”. But the six study subjects that are meant for the achieving of this intended learning outcome include study subjects, such as Basics of Law. Its role seems unjustified in general and for this learning objective in particular. If included, it should focus on IPR (intellectual property rights) issues and licensing, not on the Constitution. In general, the motivation for including particular study subjects in the programme and the streams that they form should be made explicit to better motivate students in taking the study subjects that are prerequisites for follow-up courses.

The study subject on Project Work could be a step in the right direction for introducing more teamwork skills. In the meetings with the main stakeholders it came up that VBC participates in the activities of Demola, a concept that has proved enormously successful in other Demola sites. This opportunity should be utilized to the full extent so that students participating in Demola projects can get credit for it. In general, the practice study subjects are well thought out. The first study subject (Simulation Base No.1 (Training Practice)) requires 140 hours of individual work within the College. The second study subject (Professional (Field) Practice) requires 312 hours of independent work and the third one (Final Practice) 329 hours of independent work. The second and the third practice study subjects are carried out in IT companies or in IT departments of the companies. Thus the stream of study subjects offers a path with increasing amount of work (bigger projects) in environments that gradually get closer to real work life.

The scope of the programme is sufficient to ensure the achievement of the intended learning outcomes and the content of the programme is up-to-date on the level of the composition of study subjects. However, some of the materials could be updated. For instance, a recommended reading for Operating Systems and System Software is Schildt’s “Windows 95. Programming in Studijų kokybės vertinimo centras

C and C++” from 1995. While the basics do not change, switching to more modern resources would give a better impression. In general, the education given seems to be largely based on practical manuals of how to use different software applications. Care should be taken that the students receive a sufficient understanding of the foundations of computing so that they can adjust their skills to the changing demands of the IT field. In reviewing the final works it was striking that the students were able to cite websites as sources, but citing research articles or even international textbooks was practically non-existent.

Overall, it appears that a programme that was structured around objectives has been somewhat mechanically mapped to intended learning outcomes of the study subjects. In the future the process should be reversed, so that intended learning outcomes of study subjects and intended learning outcomes of the programme are designed hand in hand. This would allow focusing more on new important topics (virtualization, cloud computing, social computing etc).

### ***3. Staff***

The teaching staff, as listed in the Annex 2 of SER “List of Lecturers”, consists of 16 full-time teachers and 8 part-time teachers. Only 8 of these full-time staff members are listed on the personnel list of the IT Department, as is posted on the website, i.e. the remaining persons seem to be members of other departments. 4 of the full-time staff have a PhD degree (2 are Associate Professors), the remaining 12 have a Master degree or a Bachelor degree. 1 of the part-time staff-members has a PhD degree (Associate Professor), the remaining 7 individuals have Master or Master-equivalent degrees. 6 members of the staff have research interests in informatics and 2 have research interests in the core field of the College – business management.

The number of admitted students to the *CPW* programme ranges during the years 2008-2012 between 15 and 29 (including part-time and full-time students. However, in recent years a strong bias is seen towards full-time students). Taking into account the high dropout rate of up to 50% and the duration of 3-4 years, the review panel estimates a student/staff ratio of appr. 2.5 – 3 since 8 out of 24 staff members are not full-time, and only 8 are part of the staff of the IT Department. However, given the small number of students enrolled, the number of teaching staff seems to be adequate to deliver the study subjects and ensure adequate learning results. The dropout rate seems to be rather high and its reasons should be examined carefully. It might be helpful to increase the effort of supporting and counseling weaker students to substantially reduce the dropout rate. However, during the interviews with the teaching staff it has been

mentioned that the on-site spent time of the majority of the teachers is rather limited. This does not support in-depth mentoring of individual students.

In Annex 4 of the SER, the final projects and the corresponding supervisors are listed. It is indicated, that in 2011, 9 out of 14 projects were supervised by a single person, which might result in an overly high workload. A more evenly distributed share of supervision activities might contribute in improving the individual support of the students. According to the information that was provided to the review panel after a site visit, the IT Department has made a decision that a single person is allowed to supervise not more than 5 theses each year.

Annex 3 of the SER “CV of lecturers” is used as a basis to assess the qualifications of the teaching staff. All of the lecturers involved in the *CPW* programme originate from an academic institution located in Vilnius, mostly Vilnius University, Lithuanian University of Educational Sciences and Vilnius Gediminas Technical University. This means that there is a quite homogeneous geographical origin and cultural background of the teaching staff. While this can support efficient communication and administration, the cultural and sociological diversity might be limited. Some lecturers have gathered international experience though, e.g. by visiting academic institutions abroad.

Next to informatics, the staff provides a rich background in various academic disciplines relevant to the *CPW* programme, including physics, economics, mathematics, educational sciences and art. The majority of the teachers have practical experience in the subject area of their courses for more than 3 years. However, most of the work experience is focused on lecturing and teaching, mainly at various universities and colleges in Vilnius. Only 4 staff members have gathered industrial work experience in local or international commercial enterprises of the IT industry. Given the strong focus of the *CPW* programme on educating graduates suitable and readily employable in business-oriented companies, the content of study subjects should be continuously re-adjusted as internet technology, market demands, business processes etc. all advance rapidly. Special efforts have to be taken to keep the study subjects hands-on and relevant to the future potential employers.

The track record of publications related to the subjects of study is mixed. Some staff members have a list of publicly available publications, including international, high-quality journals and periodicals. On the other hand, most of the staff members have published only in national titles, in non-public titles without official references, titles internal to the university or have not published at all. Again, greater interaction with the outside world would be helpful. Although

VBC has participated in some international cooperation projects, all of them were development projects – none of them was a research project. It is noted that the Department supports the academic advancement of its staff e.g. by hosting conferences or encouraging publications, such as a textbook on C++ programming.

#### ***4. Facilities and learning resources***

The premises and equipment for studies are only partly adequate, both in their size and quality. There is wireless Internet connection in VBC. It appears that some computer labs are, because of the high ceilings, not very suitable for giving lectures that generate more noise – hinders concentration of neighboring learners. Some of the classrooms miss elementary multimedia equipment, and the desks in some computer labs are not ergonomic enough. The students were satisfied with the access to computers, but expressed some concerns about a scarce configuration and quantity of different software. Use of open source software (PHP, MySQL, Linux distributions and etc.) in the learning process is laudable, but should be supplemented by some widely used proprietary software as well, for example, through Microsoft MSDN Academic Alliance programme. Some students are using their personal computers in lectures. However, there are not enough electricity sockets for them available. Moreover, the review panel noticed insufficient quantity of some devices and equipment for teaching particular study subjects related to mobile computing and computer networking.

While the number of work places for administrative staff seemed to be adequate, the review panel was demonstrated only two rooms allocated to academic staff.

The absence of an elevator makes it difficult to access the lecture rooms for disabled people (the College premises are located on the 4th floor). College administration has during the meetings mentioned the future plans to solve this problem.

Although the library is scarce, it should possibly not cause any serious difficulties because the teachers have prepared necessary learning materials that are available on the College' intranet, and the students have access to the libraries of other institutions. On the other hand, every student should have an opportunity to study textbooks that are classical in the field and are not freely available. In this respect, the library of the College should be significantly updated.

## *5. Study process and student assessment*

The admission requirements are clear and well-founded. Admission is on competitive bases, and according to the LAMA BPO regulations. It takes into account performance at secondary school in Mathematics, Information Technology, Lithuanian and foreign language. The weight for mathematics is 0.4 and 0.2 for other subjects. Although the average competitive score of admitted students was always over 10, the lowest was only 2.2. This means that the competition in admission is formal – in fact all students applied were accepted. The low academic level and high employment rate of students were the two main reasons of high dropout rate (up to 50%) of students already during the first study year. Therefore the College is suggested to consider the possibilities for setting up additional admission criteria.

Concerning research, each year 6 to 8 students participate on the annual conference IIT (Innovative Information Technologies for Science, Business and Education) of the College as listeners. Few students (altogether 3 during the years 2008-2012) have also had presentations on this conference.

Students have also the opportunity to participate in student mobility programmes – in total 3 students have used this during the last seven years, one in Finland and two in Latvia. The small number is due to the small number of scholarships. However, the interest to study abroad on part-time bases seems to be high, taking into account the high competition for Erasmus scholarships.

The fact that most of the teachers are working part-time at VBC inhibits offering individual consultancy and counseling to students (the teachers, who participated in the meeting with review panel, claimed that they are spending on average 8 hours in a week at the College). However, due to the small groups, the students always can contact their teachers via e-mail. Lack of individual supervision and counseling could be the main reason why the real amount of individual work is far less than prescribed in the programme – the 13 students who were met by the review panel devoted to independent work on average only 10 hours a week.

In terms of social support, there is a possibility to get social scholarships from State's Science Foundation. Corresponding information can be found on the VBC information boards. The College provides to students a possibility to participate in sport activities, as well psychological consultancies for those who need it. Tuition fee reduction is offered to orphans and students from I and II disability groups.

The assessment system of students is clear, adequate and publicly available. It is organized and managed in accordance with the VBC Quality Management System. Assessment is cumulative and is held in a 10-point scale. Assessment of students in particular study subject consists of examination that accounts for 50% of the final mark and another 50% of interim assessments throughout the studies. Lecturers are using different assessment methods (test, oral examination, project report).

## ***6. Programme management***

The description of the programme management refers to the College Quality Management System (hereafter, QMS), as though basically the principles set by the College are reflected. The QMS specifies the general process scheme of quality management and the distribution of responsibilities and basic quality criteria. These are described in Section 6 of the SER. However, more detailed description on the persons that act in various roles for securing the running of the study programme according to the Quality Management System would have been useful.

There is formed a Committee of the study programme. Details on the Committee of the programme were not included in the SER, but were provided when review panel requested during the site visit. It appears that its role is rather formal and that programme improvement discussions often take place informally. This has advantages, but care must be taken to include all stakeholders actively in the discussions. The decisions should be recorded and the stakeholders should be informed about them. The SER notes that “The feedback on the program is received during the regular communication with students”. This is certainly useful for collecting feedback. In the meetings it became clear that both students and staff are happy with the feedback process. However, more important is how the feedback is used for improving the programme: student feedback should lead to the changes in the curriculum. The fact that students used sentences like “the study programme is too wide”, “the Basics of Law was absolutely pointless” during the meeting with the review panel is alerting and indicates that the study programme has not been properly discussed with the students and the feedback not sufficiently been taken into account.

Surveys for potential future students are an interesting instrument for programme development. More generally, a number of different surveys are carried out on a regular basis: the alumni survey, internal staff survey and student survey – each of them is conducted once a year. The survey of social partners is conducted only when a new programme is developed, or an existing one updated. Social partners give also some informal feedback while involved in the study

process – taking part in the work of theses defense committees, participating on the activities of the Week of Socialization etc.

With regard to the role of social partners it is surprising that according to the results of the survey conducted in spring 2013: “Half of the surveyed employers are willing to admit students of the *CPW* study programme to practice, while the other half has been undecided or unwilling to admit students to practice,” as stated in the SER. The reasons for that were not asked in the survey and did not become clear in the meetings, either, with the exception of better teamwork abilities, as noted above. The scheme for including the views of future employers seems to exist, but they could be used to an even larger extent.

The review panel also considers the forming of a strong identity as the key factor for sustainability and success of the College. It is extremely important to find out the most suitable niche in the academic landscape, determine a clear profile of the College, and redesign the curriculum accordingly. For example, *business* should be the identifying keyword for the College – as it can be expected from its name Vilnius Business College – then possible names (and focuses) of its IT curriculum can be: Business Informatics, Information Technology Management, E-business/Electronic Business, Electronic Commerce etc.

### III. RECOMMENDATIONS

1. The review panel is concerned about the rather vague feedback on the study programme from the social partners as this might compromise the entering of future graduates into the labour market. To address this issue, the Committee of the study programme is recommended to ***make the study programme more focused*** and strengthen the core competencies conveyed to the students.
2. ***Utilise synergies with other fields***. It is recommended that the College determines itself in the *academic landscape* of Lithuania with the purpose of forming a unique and strong identity, and takes this into account in further improvement of the programme.
3. ***Improve the teamwork skills of students***. The basic teamwork skills should be thoroughly taught. The students should be more involved in conducting practical projects as well. The general study subjects in the curriculum can be used for this purpose, in addition developing further the Project Management study subject.
4. ***Make supervision of students more regular*** by systematic consulting and mentoring of students' independent work. Due to the missing offices for staff members, their on-site spent time is rather limited. It should be increased to allow more interaction between students and staff.
5. ***Improve the reputation of graduates among employers and social partners by*** better communicating the aims of the study programme and intended learning outcomes. Take actions based on the surveys and discussions with social partners to develop the curriculum so that their needs are met.
6. Make use of ***diverse opportunities for practice***. Form partnerships with employers for providing regular practice places and scholarships for students of the programme (including during the summer holidays).
7. Conduct a research about rationality of ***setting a threshold for competitive score*** in order to decrease the high dropout rate.
8. For enhancing the studies, ***make use of support programmes*** targeted to educational institutions (e.g. Microsoft MSDN Academic Alliance).



9. Offer only those study subjects for which there is *enough laboratory equipment* (taking into account the needs of the study subjects), possibly with involvement of social partners (distributors of hardware and software).
10. Ensure *access for disabled people* to the premises.
11. The review panel is concerned about the sustainability of the programme caused mainly by the low number of students entering the programme. Increasing the number of students presumes serious actions in all areas listed above, accompanied with updating the website with the most relevant information (also in English) and targeted *marketing* campaign with possible involvement of a marketing company.

#### **IV. SUMMARY**

The *Computer Programming and Web-technologies* study programme aims to prepare IT professionals who would be able to perform a variety of tasks related to design of information, programming, hardware and software installation and management, development and management of web-based systems for providing IT services, and computer network administration. These competences are supported by 21 intended learning outcomes, each accompanied by a list of study subjects designed to achieve it. Having such a wide scope, the programme is not streamlined enough – curriculum contains unnecessary study subjects while some important topics are almost absent. The College just in part responded to this problem by rejecting to offer one out of two specialization modules.

The review panel was pleased to see the appearance of the efforts by the College in trying to collect and analyze the feedback from the students and social partners systematically. Nevertheless it seems that the potential of the feedback is not fully used to improve the quality of the study programme – the study process and the content of some study subjects are only vaguely related to the intended learning outcomes. In particular, the students would benefit from the more practical software development in teams, covering the full life-cycle of software development and using programming languages and development tools and methodologies that are used in most professional software development companies.

The staff of the study programme is adequately qualified, although only a few staff members have some work experience in the IT industry. This should be considered as a weakness because the study programme has a practical orientation. The major concern, however, is related to the presence of the academic staff at the College premises, which certainly affects the quality of guiding and supporting students' independent work, and eventually their motivation and dropout rate. This problem is related to the small number of students, and consequently to the sustainability of the programme, because having not enough students and therefore low income, the College can not afford employment of a necessary amount of full-time lecturers.

Therefore, increasing the number of students is vitally important for the College. Seeking to ensure this, in review panel's opinion, the College should seriously take into account all the recommendations outlined in the previous section, possibly with involvement of additional experts in curriculum development.

The premises and learning equipment meet only the established minimum requirements and need improvement, including spatial expansion. This is particularly important for introducing more group work of students, for offering more opportunities for social interaction, as well as for establishing more work places for the academic staff, as recommended by the review panel previously.

Another serious problem that should be systemically addressed is the high dropout rate. The roots of this start already from the poor vocational guidance of secondary school leavers who are not enough aware of their interests and abilities. The College should make more efforts for determining the suitability of prospective students during the admission procedure to the College.

The programme seems to be managed according to the standards and established procedures of the College. However, involvement of social partners should be considerably strengthened in all aspects: in improving the reputation of the programme and the College among the employers, in attracting them more to teaching, offering more practical placements etc.

The review panel considers the forming of a strong identity as the key factor for sustainability and success of the College. It is extremely important to find out the most suitable niche in the academic landscape, determine a clear profile of the College, and redesign the curriculum accordingly. For example, *business* should be the identifying keyword for the College – as it can be expected from its name Vilnius Business College – then possible names (and focuses) of its IT curriculum can be: Business Informatics, Information Technology Management, E-business/Electronic Business, Electronic Commerce etc.

As the review panel was impressed about the enthusiasm, devotion and motivation of the administrative staff, we believe that the redesign of the programme is accomplishable in few years already.

## V. GENERAL ASSESSMENT

The study programme *Computer Programming and Web-technologies* (state code – 653I13003) at Vilnius Business College is given **positive** evaluation.

*Study programme assessment in points by evaluation areas.*

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	2
2.	Curriculum design	2
3.	Staff	2
4.	Material resources	2
5.	Study process and assessment (student admission, study process student support, achievement assessment)	2
6.	Programme management (programme administration, internal quality assurance)	2
	<b>Total:</b>	<b>12</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. Peeter Normak

Grupės nariai:  
Team members:

Prof. Kari-Jouko Rähä

Prof. Elmar Cochlovius

Juozas Breivė

Algirdas Kursevičius

**VILNIAUS VERSLO KOLEGIJOS PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS  
PROGRAMAVIMAS IR INTERNETINĖS TECHNOLOGIJOS (VALSTYBINIS KODAS –  
653I13003) 2014-05-21 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-250 IŠRAŠAS**

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## V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus verslo kolegijos studijų programa *Programavimas ir internetinės technologijos* (valstybinis kodas – 653I13003) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	2
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	2
5.	Studijų eiga ir jos vertinimas	2
6.	Programos vadyba	2
	<b>Iš viso:</b>	<b>12</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)

## IV. SANTRAUKA

Studijų programos *Programavimas ir internetinės technologijos* tikslas – rengti IT specialistus, kurie gebėtų atlikti įvairias informacinių sistemų projektavimo, programavimo, techninės ir programinės įrangos diegimo ir valdymo, internetinių sistemų, teikiančių e. paslaugas, kūrimo ir valdymo, kompiuterių tinklų administravimo užduotis. Šios kompetencijos yra pasiekiamos per apibrėžtą 21 numatomą studijų rezultatą, prie kiekvieno iš jų nurodant studijų dalykų, kurie padės juos pasiekti, sąrašą. Dėl didelės dėstomų temų įvairovės studijų programai nėra būdingas koncentruotumas – studijų plane yra studijų dalykų, kurie nėra būtini, o kai kurių svarbių temų beveik nėra. Kolegija tik iš dalies sureagavo į minėtąją problemą, atsisakydama vienos iš (iš dviejų) specializacijų.

Ekspertų grupė teigiamai vertina kolegijos pastangas sistemingai rinkti ir analizuoti iš studentų ir socialinių partnerių gaunamą grįžtamąjį ryšį. Vis dėlto ekspertų grupės nuomone, grįžtamuoju ryšiu nėra pasinaudojama visa apimtimi siekiant studijų kokybės gerinimo – studijų procesas ir

kai kurių studijų dalykų turinys yra ne itin aiškiai susietas su numatomais studijų rezultatais. Jeigu detaliau, studentams būtų labai naudinga daugiau laiko skirti praktiniam darbui komandose kuriant programinę įrangą, kuri apimtų visą programinės įrangos kūrimo ciklą, naudojant programavimo kalbas ir kūrimo įrankius bei metodus, kuriuos taiko daugelis profesionalių programinės įrangos kūrimo įmonių.

Studijų programos personalas yra pakankamai kvalifikuotas, nors pažymėtina, kad tik keli programos dėstytojai turi darbo patirties IT sektoriuje. Tai turėtų būti suvokiama kaip studijų programos silpnybė, nes studijų programa yra orientuota į praktinę veiklą. Vis dėlto didžiausią susirūpinimą ekspertų grupei kelia akademinio personalo nepakankamas buvimas kolegijos patalpose. Tai neabejotinai turi tiesioginės įtakos studentų savarankiško darbo konsultavimo ir suteikiamos pagalbos kokybei, taip pat jų motyvacijai ir studentų nubyrežimo rodikliams. Ši problema galimai sąlygoja nedidelį studentų skaičių studijų programoje, kuris kelia grėsmę tolesniam sėkmingam programos vykdymui, nes nepakankamas studentų skaičius reiškia nedideles pajamas, ir kolegija negali įdarbinti reikiamo skaičiaus visu etatu dirbančių dėstytojų.

Taigi, didinti studentų skaičių kolegijai yra labai svarbu. Siekdama tai užtikrinti, kolegija turėtų atsižvelgti į visas ankstesniame skyriuje išdėstytas rekomendacijas, galbūt pasitelkiant papildomą ekspertinę pagalbą peržiūrint programos sandarą.

Studijoms skirtos patalpos ir mokymosi įranga atitinka tik minimalius nustatytus reikalavimus ir turi būti tobulinama, įskaitant patalpų plėtrą. Tai yra ypatingai svarbu, siekiant studijų programoje įdiegti daugiau studijų metodų, susijusių su komandiniu darbu (darbas grupėse), siūlyti daugiau socialinės sąveikos galimybių, taip pat sukurti daugiau darbo vietų akademiniam personalui.

Kita rimta problema, kurią reikia sistemiškai spręsti, yra dideli studentų nubyrežimo rodikliai. Šios problemos pirminės priežastis sąlygoja prastas vidurinę mokyklą baigusių asmenų, kurie nepakankamai gerai supranta savo poreikius ir gebėjimus, profesinis orientavimas. Kolegija studentų priėmimo metu turėtų imtis aktyvių priemonių siekiant nustatyti potencialių studentų tinkamumą studijoms.

Programos vadyba vykdoma vadovaujantis kolegijos nustatytais standartais ir procedūromis. Vis dėlto socialinių partnerių dalyvavimas studijų programos vykdyme turėtų būti plėtojamas visais aspektais: gerinant studijų programos ir kolegijos reputaciją tarp darbdavių, daugiau jų kviečiant dėstyti, siūlant daugiau praktikos vietų ir pan.

Ekspertų grupės manymu, aiškus identitetas yra pagrindinis veiksnys, galintis garantuoti kolegijos veiklą ir sėkmę ilgalaikėje perspektyvoje. Labai svarbu akademiniam kontekste rasti tinkamiausią nišą, tuomet nustatyti aiškų kolegijos profilį ir atitinkamai pertvarkyti studijų programą. Pavyzdžiui, raktinis kolegijos žodis galėtų būti *verslas*, kaip ir galima būtų tikėtis iš paties pavadinimo – Vilniaus verslo kolegija. Tuomet būtų galimi tokie su IT susijusios studijų programos pavadinimai (ir orientacija): Verslo informatika, Informacinių technologijų vadyba, E. verslas / Elektroninis verslas, Elektroninė komercija ir t. t.

Ekspertų grupė buvo sužavėta administracijos personalo entuziazmu, atsidavimu ir motyvacija, todėl mano, kad programos pertvarkymas trumpalaikėje perspektyvoje yra galimas.

### III. REKOMENDACIJOS

1. Ekspertų grupei nerimą kelia neapibrėžtumas, susijęs su socialinių dalininkų teikiamu grįžtamuoju ryšiu apie studijų programą, kuris gali turėti tiesioginės įtakos būsimų absolventų įsidarbinimui. Siekiant spręsti minėtąją problemą, Studijų programos komitetui rekomenduojama ***labiau koncentruoti studijų programą***, taip pat stiprinti pagrindinių studentų kompetencijų įgijimą.
2. ***Pasinaudoti sąveikos su kitomis studijų kryptimis galimybe***. Kolegijai rekomenduojama nusistatyti savo identitetą Lietuvos aukštojo mokslo kontekste, siekiant unikalios ir aiškios tapatybės, bei atitinkamai atsižvelgti į tai tolesniame studijų programos tobulinime.
3. ***Daugiau dėmesio skirti studentų komandinio darbo įgūdžiams***. Būtina nuosekliai ugdyti pagrindinius komandinio darbo įgūdžius. Studentai taip pat turėtų aktyviau dalyvauti įgyvendinant praktinius projektus. Siekiant šios rekomendacijos įgyvendinimo gali būti panaudoti programos bendrieji studijų dalykai, taip pat galėtų būti toliau tobulinamas studijų dalykas Projektų valdymas.
4. ***Reguliariau vykdyti studentų stebėseną***, sistemingai juos konsultuojant ir vadovaujant jų savarankiškam darbui. Dėl individualių darbo vietų trūkumo, akademinis personalas gana ribotą laiką praleidžia kolegijoje. Siekiant užtikrinti aktyvesnę studentų ir dėstytojų sąveiką, tokia tendencija neturėtų vyruoti.
5. ***Pagerinti absolventų reputaciją tarp darbdavių ir socialinių partnerių***. Darbdaviams ir socialiniams partneriams turėtų būti suteikiama daugiau informacijos apie studijų

programos tikslus ir numatomus studijų rezultatus. Atliktų tyrimų ir diskusijų su socialiniais partneriais pagrindu, reikėtų imtis priemonių ir studijų programą tobulinti siekiant atitikimo jų poreikiams.

6. Pasinaudoti *įvairiomis praktikos galimybėmis*. Užmegzti partnerystės ryšius su darbdaviais dėl reguliarių praktikos vietų ir stipendijų programos studentams (taip pat ir vasaros atostogų metu).
7. Išanalizuoti *konkursinio balo ribos nustatymo pagrįstumą*, siekiant sumažinti didelius studentų nubyrejimo rodiklius.
8. Siekiant pagerinti studijų kokybę, *pasinaudoti paramos programomis*, skirtomis švietimo įstaigoms (pvz., *Microsoft MSDN Academic Alliance*).
9. Siūlyti tik tuos studijų dalykus, kuriems *pakanka laboratorinės įrangos* (įvertinant studijų dalykų dėstymo reikmes), galimai įtraukiant į šį procesą socialinius partnerius (techninės ir programinės įrangos platintojus).
10. Pritaikyti patalpas neįgaliųjų poreikiams.
11. Ekspertų grupei susirūpinimą kelia programos tvarumas, kuri sąlygoja nedidelis studentų, stojančių į šią studijų programą, skaičius. Norint padidinti jų skaičių, reikėtų imtis priemonių visose pirmiau išvardytose srityse, taip pat atnaujinti interneto svetainę, joje skelbiant naujausią informaciją (įskaitant ir anglų kalba), bei rengti tikslines *rinkodaros* kampanijas (galima įtraukti rinkodaros įmonę).

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Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso<sup>1</sup> 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

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<sup>1</sup> Žin., 2002, Nr.37-1341.