STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VILNIAUS KOOPERACIJOS KOLEGIJOS
STUDIJŲ PROGRAMOS *INFORMACINIŲ SISTEMŲ DIEGIMAS IR PRIEŽIŪRA*
(valstybinis kodas – 653E10006)
VERTINIMO IŠVADOS

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EVALUATION REPORT
OF *INFORMATION SYSTEMS IMPLEMENTATION AND*
***SUPPORT* (*state code - 653E10006*)**
STUDY PROGRAMME
at VILNIUS CO-OPERATIVE COLLEGE

Experts' team:

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2. **Prof. Dr Jerzy Marcinkowski,** *academic,*

3. **Ms Barbara McManus,** *academic,*

4. **Mr Simonas Razminas,** *representative of social partners'*

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Evaluation coordinator -

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Išvados parengtos anglų kalba
Report language – English

Vilnius
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	*Informacinių sistemų diegimas ir priežiūra*
Valstybinis kodas	653E10006
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinės, (3); ištęstinės, (4)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2012-05-09

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INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	*Information Systems Implementation and Support*
State code	653E10006
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, (3); Part-time, (4)
Volume of the study programme in credits	180 ECTS
Degree and (or) professional qualifications awarded	Professional Bachelor of Informatics Engineering
Date of registration of the study programme	09-05-2012

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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. 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.	Additional document about teacher's qualification and professional work experiences

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

Vilniaus Kooperacijos Kolegija was founded in the year 2000. Its origins go back to 1930 when the School of Economics was established in Kaunas by the Lithuanian Cooperative Union, now

the Union of Lithuanian Cooperatives. (1,2) The College was accredited by SKVC for 6 years on 9th September 2014 and it offers professional bachelors qualifications. It operates 7 study programmes in the fields of (4) social sciences, technological studies and the humanities. At the time of the preparation of their self-evaluation report, it had 680 students and 68 lecturers. (4)

An assessment was carried out of the degree in Information Systems Implementation and Support on 25.4.2012 when it was accredited for a three-year period.

1.4. The Review Team

The review team was completed according *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 *20/04/2016.*

1. **Prof. dr. Andrew McGettrick (team leader),** *Strathclyde University, Professor of Computer Science and Information, United Kingdom.*
2. **Prof. dr. Jerzy Marcinkowski,** *Wroclaw University, Professor in the Institute of Computer Science, Poland.*
3. **Ms Barbara McManus,** *Examiner in British Computer Society, External Advisor and Examiner in the field in Computer Science, United Kingdom.*
4. **Mr Simonas Razminas,** *Head of Development at Adform, Lithuania.*
5. **Mr Rytis Koncevičius,** *Vytautas Magnus University, doctoral student of Informatics Sciences, Lithuania.*

In carrying out their assessment, the review panel scrutinised the self evaluation report (SER) that had been prepared by the institution. Moreover they visited the institution on Wednesday 20th April 2016 and held fruitful meetings with faculty administration staff, the staff responsible for the preparation of the SER, students, teachers and social partners. They also had the opportunity to see the facilities used by staff and students and they had access to a sample of student work.

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The aims of the Information Systems Implementation and Support (ISDP) study programme are to prepare graduates who can evaluate and implement information systems in business environments. This is seen to involve understanding the business environment in which the information systems are implemented and employing the right hardware and software for the successful operation of the system. The relevant topics from the business side to accompany the study of information systems are seen to be accounting, personnel management, and management itself.

The self-evaluation report points to some uncertainty about the precise aims and learning outcomes. Survey results suggest that student wish to have skills in programming so that they can undertake implementation activity and they have raised issues about statistics. Such concerns tended to undermine the existence of a clear set of aims and learning outcomes. In the circumstances it cannot be said that the programme aims and learning outcomes are well defined and clear.

The aims and learning outcomes are publicly available in Lithuanian at
http://www.vkk.lt/informaciniu-sistemu-diegimas-ir-prieziura-2.html

The programme aims and learning outcomes are based on: an Analysis of the Lithuanian labour market carried out by Invest Lithuania in which they identify the needs for IT specialists for IT service centres; research carried out by Infobalt in which the need for IT specialists is also identified; and the skill supply and demand forecast for Europe up until 2020 carried out European Commission. In addition the social partners have identified the need for IT specialists who also have managerial and business analysis awareness. From this analysis, the College has identified an opportunity to provide a double professional bachelors degree as an Engineer in Information Technologies but also in Management. However, during their visit the review panel was told that the double professional degree had not been popular and there were no current signs of uptake.

Detailed learning outcomes have been identified. In rough outline these are: to analyse the performance of companies operating in the public and private sectors; to exploit and implement

hardware and software for information systems; to design and exploit databases applying modern techniques and the technologies of programming; to use advanced management systems for accounting, human resources, resources more generally, customer relationships, business and supply management; to project the usage of information systems in the company's management processes; implement and exploit selected information systems in the private and the public sectors; work as a member of a team. There are implications that students should understand the principles of software engineering and be able to use these to positive benefit.

In the view of the review panel, the learning outcomes are reasonable for a Professional Bachelor study programme in Informatics Engineering though a greater emphasis on practical skills might have been expected (e.g. to address change management, version control, networking issues, use of firewalls, penetration testing for security) as well as a greater emphasis on analysis, mathematics, and programming. In the view of the review panel, the name of the programme, its learning outcomes, and the qualification are mutually compatible.

2.2. Curriculum design

The curriculum meets the legal requirements for Professional Bachelor study comprising 180 ECTS of which 135 are study field subjects; 15 form the general college subjects; 12 make up the optional subjects complying with the regulation 'not less than 5%'. Students study between 3 and 7 subjects per semester dependent on their study mode of part-time and full-time respectively.

Modules are spread evenly on the full-time course with 30 credits per semester being delivered across 3 years. The part-time is slightly more unevenly spread with 24 credits and 21 credits being delivered across the 2 semesters per year (4 years).

Upon first analysis of the modules' syllabuses, they appeared to indicate some coverage of the expected subject material, although the review panel were unable to confirm that it was being taught at the relevant level due to the learning outcomes lacking in the terminology expected of the higher level: critically review; evaluate etc. It was noted that there appeared to be a large focus on practical skills alone without consideration of the underlying theories to enable the students to future-proof their learning. On discussing the content and level with the staff and students, this was confirmed and material was not being taught within the engineering ethos. The review panel felt that there was insufficient material being taught that was relevant to the area of

Information Engineering as defined in the Engineering document. The materials lacked evidence of consideration of: the engineering process; consistency of approach; engineering ethos; consideration of security and safety; metrics; methods.

It was observed that the Law module contained elements that were irrelevant to this degree and omitted elements that the panel would have expected to see since only 3 hours were allocated to IT Law. The students are not training to be lawyers but require knowledge of the range of IT legislation in order that they avoid breaking the laws of the country and EU. The students were unaware of the legislation supporting people with disabilities for example and the Panel saw no mention of this in any of the modules.

According to the students the subjects are taught in isolation. Staff confirmed this giving one example of algorithms being taught separately from programming. Indeed the only programming that the panel was able to elicit was that of Visual Basic for Application (VBA) and Database programming which on exploring further with the academics was discovered to be scripting only.

The review panel was disturbed to find that both Risk Management and Project Management are optional. This, together with the acknowledgment by the staff that team work is most difficult on this programme, gave the review panel some cause for concern since most information engineering projects now consists of many individuals working (often physically remotely) together as a team.

Although Human Computer Interaction is included, on further examination of the module content, it was noted that it referred more to what had been taught 10+ years ago and was now rather outdated with respect to the User Experience and user interface of current systems (including design suitable for mobile technology). Examination of the website associated with Dix et al's book on line gives a range of materials appropriate to today's needs.

There was no inclusion of consideration of accessibility issues, i.e. for people with differing abilities/disabilities and no attention to legal, social, professional or ethical issues appertaining to information systems. Indeed Dix et al covers accessibility under the title Universal Design together with a wide range of links to further online materials.

The review panel considered that the subjects being taught, and the way in which they were being delivered, focussed more on the area of business informatics rather than Informatics **Engineering**.

On analysis of the Applied Mathematics module, it was discovered that some of the material was deemed inappropriate to the needs of an informatics engineer and there were varying degrees of complexity. There was an expectation that the teaching of Linear Algebra and Optimization; Exercises: Matrixes, Determinants, Systems of Equations, Economic Systems and The Rate Equation (including Leontieff model) could be achieved within 10 hours of lectures. In the view of the review panel, this was inadequate for this study programme. 8 hours of lectures are then used for the much lower level of "Estimations in a Businessman's Practice: interest, promilles and commercial characteristics."

The review panel felt that there was insufficient material being taught that was relevant to the area of Information Engineering as defined in the Engineering document. The materials lacked evidence of consideration of: the engineering process; consistency of approach; engineering ethos; consideration of security and safety; metrics; methods.

The review team explored these issues with the staff and students at VKK finding that there was a lack of:
- robust methods for the elicitation of requirements
- disciplined and structured approaches
- awareness of cybersecurity
- change management
- understanding of the need for models and theories with consideration being given only to the importance of teaching and using the latest version of available software
- awareness of the importance of Continuing Professional Development and the limited currency of the skills being taught to them and therefore the necessity for theoretical underpinning
- detail and depth in all stages of the life cycle from requirements elicitation through to the full range of testing and user evaluation methodologies
- attention to the need for standards and their availability for all areas via the International Organization for Standardization (ISO) and for accessibility via the Web Accessibility Initiative of the World Wide Web Consortium (W3C WAI)

The reading lists provided with the module descriptors varied in their currency and the exclusion of journals from the list was observed by the panel. It was noted that the students were not expected to read relevant journals, particularly in levels 5 and 6 of their programme, where it is expected that students should be demonstrating their ability to critically analyse materials. This omission was confirmed upon examination of the final report, where few quality citations were evident and most of the references included were poor quality web-based ones.

It is the Experts' opinion that the programme does not reflect the latest achievements in science, technology and engineering.

2.3. Teaching staff

The teaching staff of the programme consists of 31 teachers. This number could clearly be adequate to ensure the learning outcomes. Staff turnover is quite high, with about half of the teachers hired in Vilnius Cooperative College (VCC) in 2012 or later; in the view of the review panel, this is on the high side. Many teachers have also jobs outside VCC, some of them teach at 4 different schools. About half of the staff are part-time employees of Vilnius Cooperative College.

According to the list of teachers' curricula vitae provided by the College, eight of them hold a PhD degree; in one case the degree is in Social Sciences, in two cases in Physics, and in two cases in Computer Science or closely related fields. All teachers with a PhD degree also work for other universities. The subjects taught by teachers with PhD degrees include, among others, "Operating systems and computer maintenance", "Computer architecture", "Computer network security", "Computer network and telecommunications", "Applied programming and physics" and jointly constitute over 1/3 of the study programme, measured by the ECTS credit points. This means that the statutory condition that "no less than 10 per cent of the subjects in the study field should be taught by scientists" is easily satisfied.

While none of the teachers is an internationally recognisable active researcher, there are two who have a publication record in internationally observable publication venues. This includes the teacher of Physics, who has a publication in journal Physica B, and the teacher of "Operating systems and computer maintenance" who has a paper at Symposium on Advances in DB and Information Systems, ranked by CORE ranking of publications in Computer Science as B. As a

college has to have a focus on teaching (with attention to important practical skills), the review panel believes that this level of research activity is almost satisfactory.

All teachers hold at least Master's degrees or equivalent. However, not always it is clear from the teachers' curricula vitae how their responsibilities at the college are matched by their professional competences, resulting from their education and professional experience. For example, the syllabus of the course "Document Management and related Information Systems" was written by a teacher of this subject who is, by education, Master in Russian literature and has no real experience with informatics (the practical experience of this teacher is discussed below). The syllabus of the course "Applied Mathematics" (mentioned before in the section "Curriculum") was written by a person who never taught mathematics and is a professional accountant (although indeed graduated in Mathematics).

According to "Order of The Minister for Education and Science of the Republic of Lithuania" of April 9th 2010, one 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". Not only is this a legal requirement, but also, in the opinion of this review panel, quite a reasonable one. As College studies are by definition "professional'", there should be people, among the teaching staff, who are really prepared to teach some practical craft.

As the teachers' curricula vitae originally provided by the College did not contain enough evidence showing that the above statutory condition is indeed met, the review panel asked the College for a document giving more detailed description of this experience. The document received lists 24 teachers (out of the total of 31) who are claimed to have required practical experience in the area of the subjects they teach. The panel however is not convinced that the experience declared in this document is always really relevant. In particular the review panel do not agree that:

-- working as a Head of Vilnius College SIMULITH centre constitutes relevant practical experience for a teacher of the subject "Practical training at a company"

-- working as a logistics coordinator, coordinating corporate and private shipment, constitutes relevant practical experience for a teacher of the subject "Applied research methods";

-- working as "specialist, programmer" at Vilnius University constitutes relevant practical experience for a teacher of subjects "E-commerce" and "Computer architecture";

-- working, for 27 years, as a director of the College constitutes relevant practical experience for a teacher of the subject "Statistics";

-- working as a researcher at Vilnius University and as a Head of Laboratory at Lithuanian University of Educational Sciences constitutes relevant practical experience for a teacher of the subjects "Computer network security" and "Applied programming";

-- working as a Zepter sales assistant constitutes relevant practical experience for a teacher of the subject "Applied mathematics";

-- working as a Vilnius Cooperative College dormitory manager constitutes relevant practical experience for a teacher of the subject "Safety at work and ecology";

-- working as a Deputy director for studies at Vilniaus Cooperative College, responsible for Moodle, constitutes relevant practical experience for a teacher of the subject "IT application";

-- drafting director's orders, certificates and documents related to students' issues and managing students' personal files constitutes relevant practical experience for a teacher of the subject "Document Management and related IS";

-- working as a researcher in physics constitutes relevant practical experience for a teacher of the subject "Physics";

-- working as a director of business information and consultation centre at Vilnius University constitutes relevant practical experience for a teacher of the subject "International business";

In two cases no details about the nature of the practical experience of staff were specified.

The professional development of staff, both in terms of their scientific and pedagogical background, is governed by regulations approved by the Director. Although there is some encouragement for staff to participate, staff lack the motivation to be involved in continuing

professional development activities organised by the College, in part because around 80% of them are employed in other institutions.

In view of the above arguments the review panel concluded that at most 11 out of 31 teachers have the relevant practical experience and thus the statutory condition that "half of the teaching staff (...) have at least 3 years of practical experience in the subject field they teach" is not satisfied.

2.4. Facilities and learning resources

The premises for studies are adequate both in their size and quality. The location of the College was identified as one of the strengths by students.

The teaching and learning equipment (laboratory and computer equipment, consumables) are not adequate both in size and quality. Monitors and computers are quite old and not powerful enough. While the review panel saw the latest version of Windows – boot time took much longer than expected. The review panel has much greater concern regarding software variety availability both in terms of types and brands. All of information systems software are local except for Microsoft Dynamics and Navision. Information systems are mainly related to accounting, CMS or CRM. The review panel did not see other types of information systems, for example those related to Human Resources Management, Support Ticket Management, etc. None of installation of systems involves automation in order to install client side to multiple computers in parallel and human error-free fashion.

Teaching materials (textbooks, books, periodical publications, databases) are not adequate and accessible. The review panel recommends a review of the recommended literature: content and availability. Some required to read books that are very old, for example, all books for module "Databases and databases systems" are from 2005; the required books for Computer Network Security are from year 1995 to 2009. The availability of the recommended literature is not in place.
The review panel wished to express disappointment at the level of resources and facilities available to students.

2.5. *Study process and students' performance assessment*

The admissions requirements are that students must have at least a good secondary education. Student admission that attracts state funding in the form of a state study grant or to fees-paid places is arranged through the Association of Lithuanian Higher Education Schools – known as the LAMA BPO system. Admission to non-state funded places is organized directly by the College. The review panel was pleased to note that, due to the innovative nature of the study programme, there had been initial funding for a three year period for part-time students and the College was unique nationally in this regard.

The numbers of full-time (and part-time) students admitted to the study programme in 2012, 2013, 2014 and 2015 were 8(10), 28(22), 49(26), 35(24). The College has noted that in 2015 there were around 21% fewer students than in 2014 and that is a concern attributed to the decreasing number of students coming through the high school system.

A points system operates for the purposes of government funding and competitive grades are evaluated. It utilizes performance in certain exams at on leaving high school. For the purpose of calculating a grade, a weight of 0.4 is given to mathematics, 0.2 for information technologies or physics, 0.2 for the Lithuanian language, and 0.2 for performance in subjects such as history, geography, chemistry, biology or foreign languages. In 2015, for instance, some 82% of the full-time students gained state funded places and 66% of the part-time students; the attainment level of the part-time students has recently (apart from in 2013) been higher than for the full-time students.

During the period 2012-2015 the number of students terminating their studies was about 20%. The figures have been analysed. Drop-outs in the first year tend to be quite high but they are also significant in the second year. The main reason for dropping out on the full-time programme is academic failure, while on the part-time course it tends to be personal reason such as lack of motivation or emigration. From the 8 full-time students who enrolled in 2012, 4 graduated; of the 31 full-time students who enrolled in 2013, 18 are due to graduate in 2016. Of the 10 part-time students who enrolled in 2012, 3 are due to graduate in 2016. Of the 4 who graduated, two entered employment and the other three have gone on to advanced study at Vilnius Gediminas Technical University.

In the view of the review panel, and although very few students have graduated, the number of graduates entering employment are small considering the aims and objectives of the study programme; the fact that the majority have chosen to undertake advanced study is also noteworthy.

In the first year students receive introductory lectures from the programme coordinator and administrative staff outlining the aims and learning objectives of the study programme as well as the schedule of lectures and such matters as funding arrangements and social support as well as mobility opportunities. The head of the library also outlines the possibilities of database use.

At the start of each semester the lecturer for a subject outlines the plan for the class and this includes an overview of content and expected learning outcomes but also the assessment system, expected reading materials and the criteria for evaluation. For the various subjects there are typically lectures, practical classes and counselling as well as individually study time. There is also tutorial activity that is publicized on the web and for which students must register.

For part-time students, there are two forms of classes: there are sessions of 2 weeks duration and these occur 6 times a year; there are also 1-2 working weeks per month with classes in the evenings and on Saturdays. Every month additional counselling schedules are prepared.

Some of the students did have jobs, and this tended to work against involvement in research, artistic and applied research activities.

The College does engage in Erasmus activity. In each of the year 2012, 213, 2014, 2015 the numbers of students from the College going to (and coming from) foreign institutions were 17(54), 13(45), 21(20), 5(12). The countries involved included Austria, Czech republic, Estonia, Greece, Italy, Portugal and Turkey. Typically the numbers of students from this study programme participating in these activities (usually to undertake practice) is relatively low though in 2014 four students from the study programme participated. During their visit this was explained to the review panel by the fact that the Erasmus co-ordinator was new to her post.

The College does organize social and cultural activities but some students do not seem to want to participate in these activities. The activities include meetings with IT form representatives as well as discussions on Business English or revamping web sites in English. There is also help with state support for disadvantaged students, possibilities for psychological consultations, and

certain kinds of allowances and state loans are possible. All students have the possibility of dormitory accommodation. At the time of their visit, the review panel was informed by the students that they were very content with the openness and approachability of staff. Generally staff were seen by students to be expert in their own areas but not so strong across different areas of the programme and so not readily able to highlight the relevance of their area to other parts of the study programme.

The assessment system is based on calculating an accumulated score on the basis of (weighted) activity during the class, e.g. project work, progress assessments, and an exam. But there was little evidence of assessment being a quality process across the study programme. The review panel did observe that no final thesis placed an emphasis on installation or maintenance, topics that were intended to lie at the heart of the study programme.

At the time of the review only 4 students had graduated and of these just a single student entered employment. Accordingly no meaningful conclusion could be drawn about the professional activities of graduates.

2.6. Programme management

The College operates a hierarchical management structure. The main governing bodies are the meeting of Stakeholders and the Director of the College. The Director together with the Academic Board - which contains representatives of the students as well as social partners - formulates the management policy for the main academic processes. The College management 'is based on the principles of democracy, competence, self-governance and effectiveness'.

There is a Deputy Director for studies and development, a Deputy Director for research and quality and a Deputy Director for infrastructure (with responsibility for the installation and such matters as the software needed for this study programme). Departments coordinate the work of the academic staff; tutors take care of the curriculum and organize student work as well as the preparation of the final thesis; the Study Development and Innovation Centre deals with project activity and the international affairs of the College including staff and student mobility, it offers career advice and it takes care of the development of the Study Quality Security System as well as the monitoring the effectiveness of the study programmes.

Responsibility for the study programme resides with the ISDP study programme committee; this was formed on 16th April 2014. There are 7 members of the committee including representatives

of lecturers, students, employers and the administration. Its remit is generally to ensure all aspects of the health and the quality of the study programme. Changes are presented to the Academic Board for approval. The activities are conducted under the guidance of Internal Quality Management system of the College and the document on the 'Design and Development of Study Programmes'. In the view of the review panel, responsibility for decisions and monitoring are clearly allocated.

The quality of the implementation of the study programme is seen to rely on having teacher-practitioners who teach, ensuring their ongoing professional competence and sharing best practice with similar institutions. The use of exchange schemes is seen to contribute to this, as is the ongoing development and improvement of internal quality mechanisms.

The Internal Quality Management System document outlines responsibilities for such matters as gathering of statistics about classes. However, in the institution's self evaluation report it is recognised that gathering statistics is seen by staff as additional work and there is inconsistency in the gathering of data and monitoring.

Since 2014, a four-phase approach has been adopted involving 4 annually conducted surveys: first year students are surveyed in October; lecturers are surveyed in November; all students are surveyed in May; and, graduates are surveyed in November. An additional phase, not yet implemented, will involve a survey of employers.

The SER points to the existence of certain inconsistencies between the College documentation and reality. This has caused certain confusion in the work of administrative staff.

All stakeholders are expected to be involved in the improvement processes. Employer's representatives are invited to teach and supervise student work. Other stakeholders include representatives of staff, students and the administrative staff who are all involved in the implementation of the study programme; they are invited to express opinions, provide outline proposals, and are invited to certain working groups.

However, during their visit a number of matters were raised that called into question the effectiveness of these arrangements. There were the issues over students wanting programming and indeed at the meeting with social partners and alumni it was stated that there should be programming and more practical work in the study programme. Social partners also commented

that the motivation of students needed to be addressed and part of this pertained to addressing the interconnections between modules. The deficiencies in the academic programme identified by the review panel contributed to the view that improvement fell far short of what was needed.

In defending the internal quality assurance procedures, the SER makes reference to the previous SKVC assessment and points to changes made as a result of the recommendations from that assessment. The response includes such matters as attention to labs, reformulating aims and objectives, obtaining more literature for the students, adding optional subjects. In the view of the review panel, this alone does not provide evidence of an effective and efficient internal quality assurance system. Indeed their view was that the internal quality assurance measures were neither effective nor efficient.

Strengths

- At its inception, the study programme was seen as innovative and attracted government funding for part-time students; the study programme was unique within Lithuania in this regard
- Although it had not proved popular, the College had identified an opportunity to provide a double professional bachelors degree as an Engineer in Information Technologies but also in Management
- The needs of the stakeholders were reflected in the aims and the learning outcomes

Weaknesses

- An engineering ethos was just not present in the delivery of the study programme
- There was an element of indecision about the precise aims and learning outcomes (arising from the student views about the role of programming, statistics, etc.). There was ambiguity about the role of programming and statistics in the curriculum
- The professional experience of the staff had to be addressed
- The internal quality assurance system needed to be reviewed
- Although just one set of students has graduated, only one student has entered employment
- Attracting students to join the study programme had proved difficult

III. RECOMMENDATIONS

1. A decision should be made about whether this study programme has to be classified as informatics engineering or whether something closer to informatics with business is more appropriate; in making the decision, account should be taken of staff background and relevant input from stakeholders.

2. Having decided on an appropriate classification for the study programme, revisit the aims and objectives with a view to sharpening up and being decisive about all aspects of the study programme.

3. For an informatics engineering study programme, far greater attention to the underpinning disciplines of mathematics, programming and software engineering have to be addressed together with attention to the user experience and to security.

4. There is a need to consider both the short term and the longer term careers and aspirations of students and to properly prepare them for the future.

5. The interconnection between modules was important for the motivation of students and had to be addressed.

6. Consideration should be given to the role that pedagogy should play in motivating students at all levels of their studies.

7. The College should seek to increase the number of its social partners who placed an emphasis on IT.

8. The effectiveness and the efficiency of the internal quality assurance measures should be reviewed.

IV. SUMMARY

This study programme on Information Systems Implementation and Support is a three year study programme offered by Vilniaus Kooperacijos Kolegija. It is delivered in the Lithuanian language and leads to a Professional Bachelors degree in Informatics Engineering. The College had originally been formed by The Union of Lithuanian Consumer Cooperatives. The partners of the study programme are now INFOBALT, a group of some 150 enterprises. An assessment of the study programme was carried out on 25.4.2012 when it was accredited for a three-year period.

The self-evaluation report prepared by the College points to some uncertainty about the precise aims and learning outcomes. But generally the aims are to prepare graduates who can evaluate and implement information systems in business environments. This is seen to involve understanding the business environment in which the information systems are implemented and employing the right hardware and software for the successful operation of the system. The relevant topics from the business side to accompany the study of information systems are seen to be accounting, personnel management, and management itself.

The content of the study programme is changing but more change is needed: within the College there are ongoing discussions about the role of statistics and programming in the study programme. In addition the review panel felt that further consideration and attention might be given to topics such as: the user experience, the maintenance of information systems, change management, human computer interaction (which had recently been removed from the curriculum), the (automated) back-up of systems, the automated deployment of software (e.g. across large numbers of computers), mobility.

This study programme had to be seen as a Professional Bachelors degree in Informatics Engineering. However, an engineering ethos was not apparent in the curriculum, in the teaching, or in the assessment and the students did not see themselves as engineers. Such an ethos implies disciplined and systematic approaches to design, development and maintenance as well as to theories that are appropriate to a College environment. It also implies the use of recognised techniques and methodologies, the use of metrics and today some considerable attention to security. Although the review panel looked for these elements, they found little evidence of them throughout their work and that created a concern. The study programme looked more like

informatics with business. Indeed graduates were seen to be IT implementation and IT support specialists for a business environment, e.g. a small to medium sized service centre.

One aspect of the role of informatics in business is change to a business brought about by informatics, and the related organisational change. This could be disruptive and could cause major upheaval. Young folk need to be prepared and ready to respond in terms of updating their knowledge and skills; they typically have a long future ahead of them. It was not clear that all social partners have the best interests of students at heart in this regard; their concern was more strongly focussed on the short term. So the College has to teach students how to keep up-to-date, e.g. through MOOCs. Students need to appreciate the role of theory in this regard and be receptive to the opportunities for keeping up to date so that they can benefit from them and be assured that their skills remain current and in demand. But distance learning was not discussed in the study programme.

During their visit, the review panel felt that the students could be more strongly motivated. In part, this derived from the fact that they did not find some lectures interesting. So there is a challenge to staff to reach out to students, make their material relevant for them, understand what their interests and motivations are and respond positively. The role of pedagogical concerns is vital in providing motivation.

V. GENERAL ASSESSMENT

The study programme Information Systems Implementation and Support (state code – 653E10006) at Vilnius Co-operative College is given **negative** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	2
2.	Curriculum design	1
3.	Teaching staff	1
4.	Facilities and learning resources	2
5.	Study process and students' performance assessment	2
6.	Programme management	1
	Total:	**9**

*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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