STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

ŠIAURĖS LIETUVOS KOLEGIJOS

STUDIJŲ PROGRAMOS *KOMPIUTERIŲ TINKLŲ ADMINISTRAVIMAS* (653E10001)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *ADMINISTRATION OF COMPUTER NETWORKS* (653E10001)

STUDY PROGRAMME

at NOTHERN LITHUANIA COLLEGE

Grupės vadovas: Team leader:	Prof. Andrew McGettrick
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Išvados parengtos anglų kalba
Report language – English

Studijų kokybės vertinimo centras

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Kompiuterių tinklų administravimas***
Valstybinis kodas	653E10001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Full-time (3), part-time (4)
Studijų programos apimtis kreditais	180 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2009 m. gruodžio 30 d. įsakymu Nr. ISAK-2820

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Administration of Computer Networks***
State code	653E10001
Study area	Technological Sciences
Study field	Informatics Engineering
Kind of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time (3 years), 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	30 of December 2009, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. ISAK-2820

CONTENTS

I. INTRODUCTION

The procedures for the external evaluation of the Professional Bachelor in Informatics Engineering degree in *Computer Network Administration* at the Northern Lithuanian College were organized by the Centre for Quality Assessment in Higher Education of Lithuania. It selected and appointed the external evaluation Review Panel formed by the head, Professor Andrew McGettrick (University of Strathclyde, Scotland), Professor Jerzy Marcinkowski (University of Wroclow, Poland), Professor Frode Eika Sandnes (Oslo University College of Applied Sciences, Norway), Gediminas Mikaliūnas (social partner, Lithuania) and Tadas Spundzevičius (student representative – graduate in *Electrical Power Engineering*, Lithuania).

For the evaluation, the following documents were used:
1. Law on Higher Education and Research of Republic of Lithuania;
2. Procedure of the External Evaluation and Accreditation of Study Programmes;
3. General Requirements of the First Degree and Integrated 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, referred to as the SER) prepared in 2013, its annexes and the site visit of the Review Panel to the College on Wednesday 7th May 2014. The visit included meetings with different groups: the administrative staff of the College; staff responsible for preparing the SER; teaching staff; students currently on the programme; and social partners, employers and alumni associated with the programme. The Review Panel evaluated various support services (classrooms, laboratories, library, computer facilities), examined a sample of students' final work including final theses and the assessment reports of these theses, and various other materials. After the Review Panel discussions and the additional preparation of conclusions and remarks, preliminary general conclusions of the visit were presented to the community of the College. After the visit, the Review Panel met to discuss and agree the content of their final report, which represents the agreed views of the Panel.

Importantly, the review of the programme took place in the context of an institutional vision and mission statements:

- The vision of Northern Lithuania College is to be a modern and open institution of higher education;
- Its mission is to implement practical higher education studies of high quality.

The degree programme is a three-year full-time, four year part-time Professional Bachelors programme in *Computer Network Administration*. It is offered by the Information Technology Department. The programme came into existence in September 2004 and was last accredited in March 2011. The SER provided very helpful narrative on each of: the programme aims and intended learning outcomes; the curriculum design; the teaching staff; the material resources; the study process and assessment; and, programme management.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The aims of the programme are well-defined and publicly available (in English as well) – they are published on the AIKOS system and appear on the College's website at www.slk.lt, as well as in information leaflets: to analyse and assess the status of computers, their hardware and software; to troubleshoot and diagnose with a view to eliminating system failures; to develop, construct and administer computer networks appropriate to the needs of customers. The degree essentially prepares students to perform important and valuable computer support functions. These aims are seen to meet the needs of Lithuania, as found from survey work conducted by the INFOBALT Association in 2011; the resulting surveys identified a need for expertise in programming, web services, system architecture and system design, data bases and data analytics as well as expertise with business process management tools; the aims of the programme address these needs in particular areas.

The intended learning outcomes are cast in terms of knowledge and its application, research skills and special abilities. **The Review Panel noticed that programme intended learning outcomes are too generic**. For instance, they include being able to select research methods and understand principles of security; both topics are challenging even for advanced study. Also, in the Review Panel's point of view, the intended learning outcomes, which include knowledge of mathematical ideas, the conceptual fundamentals and principles of informatics engineering, and important aspects of networks **could be more specific about how the knowledge is to be used**.

Research skills are identified as those skills needed to assess the status of a computer system and include the ability to analyse data. The special abilities include the skills to be expected from a graduate with expertise in computer networks, **but those are too generic as well**, e.g. they include implementing the design of a computer; the latter is overly ambitious.

Overall, it may be said that the programme aims and intended learning outcomes are too ambitious in places, which creates some issues with the consistency with the type of studies and level of qualification on offer. There is a similar situation with the name of the programme, the intended learning outcomes and the content compatibility. **The title of the programme does convey a relatively narrow focus on computer network administration**. The Review Panel considered that 'computer systems and network administration' might convey a broader and more appropriate sense of the scope of the degree programme.

2. Curriculum design

The legal requirements as set out in the Order of the Minister for Education and Science of the Republic of Lithuania, namely "General Requirements of First Degree and Integrated Study Programmes" are met. The programme comprises 180 ECTS; of these 15 ECTS are for general higher education college subjects (legal requirement at least 15 ECTS), 135 ECTS are for the subjects from the study field (legal requirement at least 135 ECTS) and this includes 30 ECTS for Practice activity, and 30 ECTS are for subjects designed to provide specialization (legal requirement between 30 and 60 ECTS). The final thesis occupies 12 ECTS, with the legal requirement being 9 ECTS.

The study subjects are spread in such a way that between 4 and 7 study subjects are studied each semester, and there is just a little repetition, which is a good feature. In semesters I and II for full-time students and semesters I, II and III for part-time students, the study subjects include: basics of philosophy, foreign languages, language culture and rhetoric, and introduction to sociology; from the mathematics and physical science subjects, mathematics, physics, information and communications technologies, computer architecture and operating systems, and programming are addressed. **There is thus a heavy emphasis on foundations rather than on networking, the main focus of the degree programme**. Some thought might be given to providing students with earlier exposure to network matters.

For semester III for full-time studies (III and IV for part-time studies) the subjects relate to the fundamentals of engineering: discrete mathematics, basics of electrical engineering and electronics, computer networks, object oriented programming, computer graphics, and the basics of web site development. This provides a good basis for later study.

In later semesters the classes include: further programming, computer network and security and management, computer network design practice, computer operating practice, management / basics of entrepreneurship, work safety and ergonomics, professional practice, data management technology and classes devoted to the final thesis which is network based. In the view of the Review Panel, this is reasonable, **though a stronger focus on computer network administration might be expected**.

The set of classes is generally consistent with the type and level of studies. **A class specifically on professional, legal and ethical issues is not present**. The Review Panel noted that, following an earlier evaluation in March 2011, the institution had made certain changes to

provide a deeper study of computing topics. There is probably still scope for a greater move in this general direction; for insatnce, topics such as physics and electrical engineering could be replaced with more relevant classes, e.g. on mobile systems, on platforms, on multimedia, on the human computer interface (crucial for usability).

The content of the study subjects would benefit from updating. Nowadays programming subjects ought to include attention to safe and secure programming issues; computer architecture should include mention of multi-core processors; and security considerations generally should be seen to infiltrate all aspects of a computing programme. The class on Law could be made more relevant by including far greater attention to the important professional, legal and ethical issues that pervade modern computer use. The CS 2013 report published by the Association for Computing Machinery (ACM) and the IEEE Computer Society might be referenced for this purpose. More generally, it is not evident that the programme has been benchmarked against international reference points, e.g. benchmarking standards, curricular guidance. Indeed urgent attention should be given to updating syllabuses.

Deficiencies in the intended learning outcomes have been identified as well as issues about the selection of study subjects and their content. But in general terms the scope of the programme ensures the achievement of the study subject intended learning outcomes.

3. Staff

The teaching staff of the programme consists of 15 teachers, roughly half of them being full-time employees of Northern Lithuania College, and half of them being part-time. This number is adequate to ensure the achievement of the intended learning outcomes. The median age of the staff is 39 years. This means that the teachers are of a good age.

Most of the full-time employees have been teaching in Northern Lithuania College for more than five years. As a consequence, the staff turnover is low. On the other hand, the presence of part-time teachers ensures some necessary cross-fertilization.

According to the list of teachers' CVs provided by the College (the SER), 33% of the staff hold PhD degrees. In two cases the degree is in computer science, in one case in mathematics, in one case in materials science and in one case in social sciences. One of the teachers with a PhD degree is a full-time employee of the College and the remaining ones are part-time. The remaining 66% of staff hold a Master's degree. 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 easily satisfied. Actually, according to the SER, 60% of the study field subjects are taught by teachers with scientific degrees.

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". As College studies are by definition "professional", it is very appropriate that there should be people among the teaching staff, who are really prepared to teach some relevant practical craft. In the case of studies in *Computer Network Administration* such teachers should preferably have real practical experience in network administration or in programming.

As the teachers' CVs originally provided by the College did not contain enough evidence showing that the above statutory condition is indeed met, the Review Panel asked questions regarding the nature of teachers' practical experience during the meeting with the teaching staff. The Panel also asked the College for a document giving a more detailed description of this experience. According to the document received, all apart from four staff members have the required 3 years of practical experience or more. However, **the Review Panel was not always convinced that the experience declared in this document was really relevant, from the point of view of the subject taught; and in the cases when it is relevant the Panel was not always fully satisfied by the amount of relevant experience.** To illustrate, the Review Panel **had concerns about the relevant practical experience of the teachers of study subjects such as Computer Graphics and certain mathematics subjects.**

On the other hand, there are several teachers who seem to have very appropriate practical experience. For example, one teacher had been working for 14 years, as a programmer in industry; another teacher had worked as a senior network administrator in Šiauliai city municipality. Their experience was highly relevant and had been used effectively in the delivery of the programme. This list also includes some teachers of the general college subjects – for instance the teacher of "Basics of Law" who practices law, or the teacher of "Basics of Philosophy" who served as a moderator in the Vilnius University Discussion Club "Filocafe".

In view of the above, the Review Panel concluded that the statutory condition that "half of the teaching staff (...) have at least 3 years of practical experience in the subject field they teach" is satisfied, but it is fair to say that it is satisfied with little safety margin. **In the view of the**

Review Panel, steps should be taken to address with some urgency the issue of the relevant practical experience of the staff.

In terms of staff scientific activity, at least two of the teaching staff members published papers in venues that are genuine vehicles for the international exchange of ideas – in one case it was the International Conference on Computers for Handicapped Persons (proceedings by Springer LNCS); the other publishing venue was the journal "Acta Applicandae Mathematicae". Unfortunately, both the papers were published six years ago, which means that the authors have not really built upon these successes. However, the Review Panel recognise the realities of working in a College environment. This understanding of the mission of the College translates to **relatively high teaching load** for the teaching staff which is, depending on their academic position, between 500 and 800 contact hours a year, or up to about 20 hours a week.

It also should be noted, that the Review Panel held a long and fruitful meeting with the teaching staff, which was attended by most of the staff members. Most of the teachers were able to efficiently communicate in English. Teachers are aware that – due to political decisions external to the College – the College is struggling to attract students on this programme. However, regardless of that, many of them show a certain amount of enthusiasm and it is clear that they identify with the College, which is very important. The Review Panel was also quite impressed by some staff members who, while not being by education, computer scientists, are IT enthusiasts, who seem to follow the progress of their area of interest.

The College encourages the teachers to participate in formal professional development schemas, from PhD studies to various training courses. At the meeting with the Review Panel, they expressed satisfaction with the opportunities offered by the College. **However, in view of the high teaching load one needs to be realistic about the effects that can be expected.**

The College is involved in some international cooperation, which includes each year on average two short visits of the staff members to foreign institutions and two visits of foreign teachers to the College. To illustrate, in the year 2012-13 there were visits to Kocaeli University in Turkey, Rovienami Univerity in Finland and Alberta College in Latvia.

4. Facilities and learning resources

There are enough studying facilities in the College: 2 big auditoriums (giving a combined total of 150 workplaces) and 20 auditoriums (giving a total of another 600 workplaces), and 2 auditoriums specifically for informatics (21 and 15 workplaces). There is one Computer Network

Laboratory with 17 workplaces, which is very important for this study programme. A Computer Architecture Laboratory provides some 19 workplaces. These are more than sufficient given the numbers of students on the programme. The computer classes and laboratories are fully compatible with legal security and hygiene requirements in Lithuania.

The College has new and a modern virtual desktop infrastructure that was installed recently (2012). It allows students to connect to the College information system locally and from outside. There is a free cable and wireless Internet. During the last 5 years, huge investments have been made into infrastructure (1.5 million LTL). There is also a video lecture and conference system in place. There is plenty of specialised software used for learning purposes: VMware vSphere, vCenter, Citrix XenDesktop, IBM SPSS Statistics Base 19.0; Microsoft® Office 2010 Professional; Autodesk AutoCAD 2008; Adobe Creative Suite 6 Master Collection; Ableton Suite 8; CorelDRAW Graphics Suite X6; Final Cut Pro X; Yenka Science Bundle. Also, the College has signed a subscription agreement with Microsoft. Students confirmed that there is more than enough modern equipment and software for their laboratory and practice work. The social partner company D-Link has had a long-term collaboration with the College and provides, on a yearly basis, modern network equipment for the College.

There are three practices in this programme: computer network design practice, professional practice and final practice. College has many contacts with the companies for professional student practices. There is also a new modern infrastructure for local practices.

The interviews revealed that students and social partners had been asking for more practice hours and the Quality Supervision Committee had adapted the programme so that now some 32.16% of total student time is devoted to practical classes and practical work. This is a good example, showing that there is effective collaboration between the College, social partners and students. However, at the meeting with students they voice the view that they still want to have even more practice – some on programming.

Another good example of collaboration was provided by a social partner, who recommended the addition of study subjects to further develop students' soft skills – presentation, sales, etc. The study methods employed on the programme now include group work, debates, discussions, and aim to encourage independent learning and the acquisition of professional skills.

Students had also been complaining that in some cases it was difficult to find a place for practice even if the College is helping, since some companies had been unwilling to accept students. Now

a list of practice locations is published on the College website and on student notice boards and is circulated in social networks. While the social partners, who participated in the meeting with the Panel expressed their view that they invite and accept students for practice from this study programme and see huge progress during the study process. Students are gaining good practical skills in computer and network administration. Students admitted that once they are accepted to the practice, social partners are helping with themes and tasks for their final practices.

There is access to many subscribed periodicals and scientific databases in the field of information technology at the College. There are 138 titles of literature for the computer and network administration study area, but limited basic references in the English language. Newly acquired literature is published on the College website. The Review Panel felt that there should be a further increase in the availability of textbooks in the library written in English to support the study area.

For students on this study programme 23 Moodle courses have been created. Students claimed, that they are using Moodle heavily to find the resources for lectures, additional literature and to run tests. They are using more electronic textbooks rather than printed textbooks. The Review Panel also had a demonstration of very modern equipment available for distance learning using Adobe Connect. One social partner had identified a major strength that College has, i.e. a very good infrastructure for distance learning, and this could be one driving direction in the future for the College with its regional responsibilities.

5. Study process and student assessment

In the Review Panel‘s point of view, the admission requirements are quite vaguely defined. It seems that the minimal requirement is that a student must obtain passes in mathematics or information technology at high school level in order to be admitted as a full-time student. Beyond this a competitive score is calculated and used for admissions purposes. In 2012 the College as a private institution lost the ability to have study places funded by the state. The College is also bound by a requirement that there should be no student cohort of less than 8 students.

Admissions numbers during 2008 to 2013 were 10, 15, 9, 13, 7 and 5 respectively for the full-time programme. The Review Panel had concerns about the trend of falling numbers of students being admitted. The average competitive scores during those years were: 8.55, 7.49, 7.64, 7.02,

5.5 and 7.88. During the same period only 6 students entered the part-time programme in 2013 and their average competitive score was 8.2.

The total number of contact hours is 2400 hrs for full-time studies and 700 hrs for part-time studies. For full-time studies there is a certain fluctuation in arrangements driven by the arrangements for practice time. Part-time studies are organized in such a way that there are two periods of activity each month, each amounting to some 22-24 academic hours and these are on Fridays, Saturdays and Sundays to allow students to fulfill employment commitments.

Since 2008 students have regularly participated in conferences / competitions organized by Utena College and by Šiauliai State College. Students have the possibility of participating in programmes such as the ERASMUS programme. In 2008-09 two students went on exchanges to Portugal, in 2009-10 two students went on exchanges to Cyprus, in 2011-12 three students went to Latvia and in 2012-13 one student went to a College in the UK.

Students receive an introduction programme at the start of their studies at the College. This includes attention to financial matters, the aims and objectives of the programme, timetables, selection of optional study subjects, information about assessment, and mobility possibilities. During the first week there is traditionally a sports element to activities and this is organized by the student body. The Finance Division of the College assists students with certain financial matters and the Student Division provides advice in support of financial hardship and such matters as leave of absence.

Within the College regulations, there are College Procedures of the Assessment of Study Achievements. Assessment criteria for each study subject are provided during the first lecture of each subject. Typically, there is an accumulated assessment derived from class tests, practical activity, etc. that accounts for 60% of the overall score. A final examination accounts for the remaining 40% to produce an overall score. Students are told individually of their score and this is accompanied by feedback from a teacher; this is one of the principles underlying College's approach to the assessment of student achievement.

For final theses, there is a College regulation on the Thesis Development and Defense. Each student has a scientific advisor and the advisor must meet with the student at least on 5-6 occasions. A reviewer will make an assessment of the work. A Qualifications Commission is formed from some 5-6 members of staff and their role is to attend the public defense of the work and oversee the results; more than 50% of members must be employers' representatives. Final

assessment employs a formula which calculates scores as 0.2 SA + 0.2 R + 0.6 Q, where SA is the scientific advisor's assessment, R is the reviewer's assessment and Q is the Qualification Commission's assessment. The final grade is provided on a 10 point score basis; an additional point can be gained if the work is research focussed or presented at a conference whose focus is related to the work of the thesis.

There is a code of ethics that governs much of the assessment. This takes cognizance of the possibility of various forms of dishonesty including plagiarism, but also sets out guidance for appeals against exam assessments.

Excluding the final thesis assessment, little information is provided in the SER on such matters as the moderation (either internal or external) of examinations, or of double marking to provide confidence in the assessment arrangements. Remarkable that there is also no indication of any training for those employers undertaking the very sensitive matter of thesis assessments.

It seems that around 80% of graduates gain employment and about 60% gain employment in the area of the programme. This information is based on an annual survey carried out by the College and covering employability issues.

6. Programme management

The responsibilities for decisions related to the study programme and monitoring of study programme quality are outlined in the College's Quality Manual. This private College has a Director with the overall responsibility. The Director is also one of the co-owners of the College. The College is divided into departments with department heads. In addition, various roles are covered by the IT Director, Head of the Study Department, Scientific Activity Coordinator and the Deputy Director. There are also several committees with various declared responsibilities such as the Quality Supervision Committee and the Academic Board.

However, the formal management structure did not appear at all points reflect the actual structure. The top management gives careful attention to the programme which is very positive. The Director oversees the running of the College through strong leadership and passion. All significant decisions appear to go via the Director and the other co-owners. This organisation is effective and efficient for a college of this relatively small size. On the downside, the College is probably more vulnerable with the dependence on a single individual for the daily running of the College. Also, it can be confusing when decisions are made without detailed insight. It would be useful to clearly document the actual management structure in terms of roles and responsibilities,

especially for new staff who will more easily know who to turn to in various situations they may face.

In this context the attention also should be paid that during the site visit more than once was emphasised that the small size of the College allows actions to be taken quickly with minimal bureaucracy. For example, teachers who consistently deliver poor teaching will not have their contract renewed. Another example is the refurbishment of auditoriums based on feedback from students.

The main goals of the College expressed during the site visit were to ensure employability of students and a strive towards high ratio of graduates that obtain employment. Beyond that, Northern Lithuania College has a Quality standard listing 13 quantitative and 16 qualitative indicators. These are collected, presented and analysed in six annual reports addressing lectures and studies, students' progress, student attendance, employability, admissions and College activities.

However, the highlighted goal of the College to ensure employability of the graduates becomes secondary, when the care should be taken by the decreasing number of the students. The number of students on the programme have been dropping from 52 students in 2008/2009 to 33 students in 2013/2014 and the drop in students is primarily attributed to demographics as more young people are leaving the region and the introduction of tuition fees after private colleges lost state support in 2012. The College takes the drop in students' numbers very seriously and is actively taking steps to counterbalance this trend via campaigns aimed towards secondary schools in the region.

The College also reported (the SER) the existing problem with low participation by students in surveys addressing the assessment of study processes. The College tried to solve this problem – since 2012 student surveys have been conducted electronically via Moodle. Focus groups with students are also organised. One suggestion for improving the response rate is to vary the means of soliciting feedback to prevent questionnaire fatigue; for example, occasionally use is made of paper-based questionnaires in class, and efforts are made to vary the type of questionnaire, use in-class oral feedback sessions, include reflection notes as part of coursework, etc.

In addition, it should be noted that one more form for collecting students feedback exists at the College – Director has meetings with the Student Council every month and he stressed that these conversations are open and free. He stated that students are able to raise problematic issues

relating to the study subjects and the teachers. The Director's claims were confirmed by the students during the site visit.

Regarding teachers role in internal quality assurance, teachers are responsible for their respective study subjects and systematically carry out study subjects evaluations and respond with changes to the study subjects. They submit change suggestions and discuss evaluations and improvements in the departmental meetings.

According to the SER and information received during the meetings, the results of different analyses and evaluations are communicated to all the stakeholders using e-mail, web, meetings and round table discussions.

In terms of external evaluations and its' results, in the SER there is no indication of the programme being externally evaluated apart from the previous SKVC organized external evaluation in 2011. The recommendations of the 2011 evaluation have resulted in changes: the College has implemented a virtual learning environment and virtual workplaces enabled students to acquire relevant practical abilities; it had introduced projects for the promotion of engineering study programmes; it had improved the involvement of social partners; it had corrected the descriptions of study subjects; it had improved laboratory facilities and it had acquired laboratory work performance software. The Review Panel is convinced by the College efforts to improve the programme.

Overall, technology is an essential part of the study programme and it is important that students are trained in technology that is state of the art and actually used in industry. Social partners are actively used to continuously solicit feedback on what is the state of the art in industry. The site visit revealed the management structures are effective in translating this feedback into concrete actions in terms of updating the equipment and software in a timely manner for the benefit of students. The modern state of the equipment allocated for the study programme demonstrates that the College successfully replaces and updates its equipment in response to recent technological developments and paradigm shifts in the computing networking industry.

III. RECOMMENDATIONS

1. Consider broadening the title of the programme to reflect a focus on computer systems and network administration.
2. Review the intended learning outcomes of the programme to ensure that they are of high quality (i.e. are measurable, etc) and provide a better focus.
3. Review the selection of study subjects on offer to ensure that they contribute to a deeper education in computer systems and network administration.
4. Review the contents of all study subjects against internationally recognised guidance (such as the CS2013 recommendations provided jointly by the ACM and the IEEE Computer Society) to ensure that they are truly up-to-date and internationally competitive.
5. Review the issue of the relevant practical experience of staff and take steps to ensure that the legal condition is comfortably satisfied in a way that ensures the best interests of students on this programme.
6. Increase the availability of relevant technical textbooks in the English language in the Library.
7. Consider the provision of more practical work that will meet student needs and increase their skill levels in important areas.
8. Give encouragement to efforts to increase the numbers of students coming on to this programme.
9. Exploit possibilities for distance learning with a view to helping this programme.
10. Document the actual workings of the management in terms of responsibilities for decisions and monitoring and ensure that such documentation is updated.

IV. SUMMARY

This study programme on *Computer Network Administration* is hosted by a private College that provides an excellent environment for study. The College is relatively small in size; much of the administration for the programme works well and changes can take place rapidly though many of the underlying mechanisms are informal. The students also benefit from this environment that is highly supportive.

The Review Panel judged that the resources available to students were generally excellent. This covers all teaching accommodation and computer facilities. Steps could be taken to increase the supply of modern technical books (written in English).

The Review Panel did have some concerns about the small numbers of students on the programme and wished to see more effective steps taken to increase the intake. The title of the programme might be reviewed to ensure that it reflects modern concerns and approaches and is a better reflection of the programme, i.e. it addresses systems and network administration. Related to this, the Panel felt that urgent steps should be taken to ensure that the legal requirement about the relevant practical experience of staff is met comfortably.

In the view of the Review Panel, the curriculum would benefit from an update. The opportunity should be taken to drop certain classes and to provide a deeper and more modern education in systems and network administration. There is little evidence of a perspective that takes account of best practice internationally. Curricular guidance offered by international bodies (such as the Association for Computing Machinery and the IEEE Computer Society) should be referenced.

V. GENERAL ASSESSMENT

The study programme *Administration of Computer Networks* (state code – 653E10001) at Northern Lithuania College is given **a 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	4
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	3
	Total:	**16**

*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. Andrew McGettrick
Grupės nariai: Team members:	Prof. Jerzy Marcinkowski
	Prof. Frode Eika Sandnes
	Gediminas Mikaliūnas
	Tadas Spundzevičius

ŠIAURĖS LIETUVOS KOLEGIJOS PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS *KOMPIUTERIŲ TINKLŲ ADMINISTRAVIMAS* (VALSTYBINIS KODAS – 653E10001) 2014-08-22 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-433 IŠRAŠAS

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V. APIBENDRINAMASIS ĮVERTINIMAS

Šiaurės Lietuvos kolegijos studijų programa *Kompiuterių tinklų administravimas* (valstybinis kodas – 653E10001) 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	4
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	3
	Iš viso:	**16**

* 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 programa *Kompiuterių tinklų administravimas* yra vykdoma privačioje kolegijoje, kurioje yra sukurta puiki aplinka studijoms. Kolegija nėra didelė, tai galimai lemia pakankamai gerą studijų programos administravimą, atitinkamai pokyčiai gali būti įvykdomi labai greitai, nors pažymėtina, kad daugelis vadybos mechanizmų veikia neformaliai. Studentų atžvilgiu minėtoji aplinka taip pat yra naudinga, nes yra orientuota į juos.

Apskritai, ekspertų grupės nuomone, studijoms skirti ištekliai yra puikūs. Tai galioja dėstymo patalpų ir kompiuterinės įrangos atžvilgiu. Vis dėlto reikėtų didinti šiuolaikinių techninių knygų anglų kalba skaičių.

Ekspertų grupei kelia susirūpinimą nedidelis studentų studijų programoje skaičius, tad kolegijai reikėtų imtis efektyvesnių priemonių studentų skaičiaus didinimui. Reikėtų persvarstyti studijų programos pavadinimo tinkamumą, siekiant užtikrinti, kad jis atspindėtų tai, kas aktualu šiuo

metu, modernius požiūrius ir pačią studijų programos esmę, t. y. būtų orientuotas į sistemų ir tinklų administravimą. Sąsajoje su tuo ekspertų grupė mano, kad reikėtų skubiai imtis priemonių, siekiant užtikrinti, kad būtų visiškai tenkinami teisės aktų reikalavimai, susiję su aktualia personalo praktine patirtimi.

Ekspertų grupės manymu, studijų programą reikėtų atnaujinti. Reikėtų pasinaudoti galimybe atsisakyti tam tikrų studijų dalykų ir vykdyti daugiau apimančias bei modernesnes studijas sistemų ir tinklų administravimo srityje. Ekspertų grupei buvo pateikta nepakankamai informacijos, kad yra remiamasi sektina tarptautine praktika. Reikėtų atsižvelgti į tarptautinių organizacijų (tokių kaip ACM ir IEEE Computer Society) rekomendacijas dėl studijų programos sandaros.

III. REKOMENDACIJOS

1. Apsvarstyti daugiau apimančio studijų programos pavadinimo galimybę, siekiant, kad jis atspindėtų sutelktį į kompiuterinių sistemų ir tinklų administravimą.
2. Peržiūrėti studijų programos numatomus studijų rezultatus, siekiant užtikrinti jų kokybę (t. y. ar jų pasiekimą galima įvertinti ir pan.) bei prielaidų programos sutelktumui sukūrimą.
3. Peržiūrėti dėstomus studijų dalykus, siekiant užtikrinti, kad jie sukuria sąlygas gilesnių žinių apie kompiuterinių sistemų ir tinklų administravimą įgijimui.
4. Peržiūrėti visų studijų dalykų turinį, palyginant jį su tarptautiniu mastu pripažintomis gairėmis (tokiomis kaip CS2013 rekomendacijos, kurias kartu parengė ACM ir IEEE Computer Society), siekiant užtikrinti, kad studijų dalykai yra modernūs ir konkurencingi tarptautiniu lygmeniu.
5. Skirti dėmesio personalo praktinės patirties stokai ir imtis priemonių, kad teisės aktų reikalavimai būtų visiškai tenkinami, siekiant studijų programos atitikties studentų interesams.
6. Didinti su studijų programa susijusių techninių vadovėlių anglų kalba skaičių bibliotekoje.
7. Apsvarstyti galimybę skirti daugiau laiko praktiniam darbui studijų programoje, siekiant atitikti studentų reikmes ir tobulinti jų gebėjimus svarbiose srityse.
8. Skatinti ir palaikyti priemones studentų skaičiaus studijų programoje didinimui.
9. Visa apimtimi pasinaudoti nuotolinių studijų teikiamomis galimybėmis, siekiant padėti šiai studijų programai.

10. Dokumentuoti studijų programos vadybą aiškiai numatant atsakomybę už sprendimų priėmimą ir stebėseną bei užtikrinti, kad šie dokumentai būtų atnaujinami.

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

[1] Žin., 2002, Nr.37-1341.