STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

KAUNO KOLEGIJOS

KOMPIUTERINIŲ TINKLŲ ADMINISTRAVIMO
PROGRAMOS (653E14001)

VERTINIMO IŠVADOS

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EVALUATION REPORT

OF *COMPUTER NETWORK ADMINISTRATION*
(653E14001)

STUDY PROGRAMME

AT KAUNAS COLLEGE

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Išvados parengtos anglų kalba
Report language - English

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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	**Kompiuterinių tinklų administravimas**
Valstybinis kodas	653E14001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3), ištęstinė (4)
Studijų programos apimtis kreditais	180
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2000 m. rugsėjo mėn. 21 d.

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INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	**Computer Network Administration**
State code	653E14001
Study area	Technological Sciences
Study field	Informatics Engineering
Kind of the study programme	College studies
Level of studies	First
Study mode (length in years)	Full-time (3), part-time (4)
Scope of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor of Informatics Engineering
Date of registration of the study programme	September 21, 2000

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I.   INTRODUCTION

Faculty of Technologies is a Kaunas College division for implementation of study process and applied-science research. Faculty of Technologies is one of the biggest at Kaunas College – it has more than 1600 students. Faculty of Technologies implements and continuously improves 9 study programmes. *Computer network administration* study programme of Informatics engineering study field is conducted at the Department of Computer Technologies.

The Lithuanian Centre for Quality Assessment in Higher Education formed an expert team (consisting of five experts including a student) to review and assess the *Computer network administration* study programme (653E14001) at Kaunas College.

The Expert Team visited the Faculty on October 5, 2012. Meetings were held with the College administration, self-assessment group, teaching staff, students, graduates and social partners. The expert team visited the laboratories and classrooms used by the students.

First, the Expert Team met the administration of the College represented by 4 persons. Next a meeting with 6 members of self-assessment group was held. At this meeting, the Expert Team was given answers to the questions concerning less uncovered issues in the self-assessment report.

After that, a meeting with 16 members of teaching staff took place. During the meeting teachers discussed some problems and requests of study programme.

The Expert Team also conducted interviews with some students of the programme. The group consisted of 11 full-time (three of them 1-st-year, four 2nd-year and four 3rd-year undergraduate students) and 3 part-time students. The Expert Team was familiarized with students' attitude towards the programme; the students expressed mostly positive opinion.

The Expert Team had possibility to observe various support services (classrooms, computer services, library) as well as to familiarize with students' course works and final works.

Finally the Expert Team met 2 graduates and 2 social partners of the programme.

At the conclusion of the visit, the Expert Team conducted a meeting with staff of the Faculty and introduced general remarks of the visit and highlighted some strengths and weaknesses of the programme.

The findings of the Expert Team are reflected in the following chapters of this document. The self-evaluation report submitted by Faculty, the observations made at the time of the visit, and the supplementary material received during the visit form the basis of these assessments.

II. PROGRAMME ANALYSIS

1. *Programme aims and learning outcomes*

The self-analysis report describes programme goals and learning outcomes of *Computer network administration* study programme and links it with the curriculum. The learning outcomes describe professional knowledge and competences as well as general skills. The programme description describes the learning outcomes and contents of each subject and gives detailed information on the content and working methods of the courses.

As indicated the self-analysis report (paragraph 20), the aim of *Computer network administration* study programme is „to train professional bachelors of informatics engineering who are able to design and install institutional information and communication technology (further referred to as ICT) systems, to operate hardware and software of information and communication technology systems, and to supervise a group of persons during implementation of ICT system design, installation, and operation activities".

Study programme aims and learning outcomes are clearly announced publicly using all possible information transfer means: internet sites, during the visits to vocational schools, secondary schools, annual open door days, career events, in the publications.

According to the self-analysis report, the demand for the study programme is substantiated by development of information technologies and increasing demand for professionals of information technologies in Kaunas region development target until 2020 to stimulate formation and development of information society and the following tasks: to create and develop information infrastructure, stimulate its usage; to implement electronic services for the community of the region. The main part of the *Computer network administration* study programme graduates find a job according to their profession within the first year after the graduation (paragraph 16).

During the meeting with teachers, students and stakeholders the Expert team was convinced that the programme considers demand of the labor market, interest of employers and students.

The contents and the qualifications offered by the programme are well described by the learning outcomes. The professional orientation of the programme is clearly described by the learning outcomes and meet the professional requirements of a graduate in *Computer network administration*. The learning outcomes of the programme as well as the subject level meet the required type level of qualifications.

The programme goals and learning outcomes of *Computer network administration* programme described in the self-analysis report are linked to the content of the programme as

well as professional knowledge, competences and general skills are described in the learning outcomes too. But the programme goals does not have clear connection between learning outcomes and study subjects.

During the meeting with self-assessment group no one from this group was able to show evidence how they came to programme's learning outcomes.

2. *Curriculum design*

The programme meets the requirements of legal acts such as order of the Minister of Education and Science of the Republic of Lithuania, 19.02.2010, No. V-222, "On the approval of the list of branches of the study fields" and Law on Science and Studies of the Republic of Lithuania, 30.04.2009, No. XI-242.

The curriculum is based on a total of 180 ECTS credits which is equivalent to 4800 working hours. 15 credits are devoted to general college study subjects, 135 credits are devoted to study field subjects and 30 credits to special study subjects among which nine credits are devoted to electives. The full-time programme covers six semesters with 30 credits each. The part-time programme lasts eight semesters.

The curriculum of the full-time programme has a high proportion of practice hours which reflects the practical and professional orientation of the study programme. Out of the 2228 contact hours, 1198 hours are devoted to practical work and 856 hours to lectures. The remaining hours are individual consultation hours. 2572 hours are devoted to individual work. The part-time programme has the same distribution of credits with a higher proportion of independent work.

The main part of the general subjects of the college studies are studied during the first study year. After the first year, an introductory practice (3 credits) is organized in the laboratories of the college. 27 credits are divided into different industrial practices. The studies of the subjects of the study field are also started in the first semesters. In the first year, these are subjects of the *Engineering basics*, and in the second year – subjects of the *Informatics engineering basics*. In the study programme, subjects of the deeper specialization within the informatics engineering (21 credits) are studied in the 3rd, 4th and 5th semesters. In the group of deeper specialization subjects, an alternative is allowed, i. e. possibility to select one of the compulsory subjects in order to better prepare for the graduation work. Free elective subjects are foreseen for 3, 4, and 5 semesters – one subject per semester. Volume of each free elective subject – 3 credits. For free elective subjects, in total 9 credits are allocated. Students of

Computer network administration study programme participate in common free elective subjects registration system of Kaunas College and in 2011 selected from 154 subjects.

It is good that students can chose out of 154 subjects offered by Kaunas College. They can to deepen their knowledge in professional activities according to their interest.

The curriculum covers the main subjects of the *Computer Network Administration* field and gives the graduates a solid foundation in the field. The general college study subjects are not subject related and cover humanities and social science subjects as well as language competences.

Most of the study subjects are arranged consistently. However, subjects "Digital circuits" and "Electronics basics" should be taught before the subject "Computer networks".

Most of the subjects descriptions are submitted correctly. However, there are some areas for the improvement (additional literature in the course of "Digital circuits" is not indicated).

Course papers are not reflected in the syllabus.

The syllabus "Professional English language" includes the topics of the General English, consequently, the title doesn't meet the content.

Less credits might be given for "Physics" so as it is taught in "Electrical Fundamentals". Or some parts of "Physics" (certainly not regarding to any other subject) should/can be eliminated. Knowledge of physics should help students to understand the operation principles of computer network and telecommunications. The subject of „Human Security" should be expanded by such topics as Computer Ergonomics, the Environment.

Should be introduced new subject "Discrete Mathematics" or topics of "Discrete Mathematics" should be inserted into subject „Mathematics".

The syllabus of "Industrial practice" is very similar to the "Final practice", there are many recurring themes. There's no indication in the final practice that the practice area must be consistent both with the thesis topic as well as with the jobs the graduates are prepared for.

Computer network administration study programme learning outcomes meet the requirements for the first-cycle college study programme.

According to the self-analysis report the study and assessment methods depend on the aims and specific requirements of a particular subject. In order to achieve the learning outcomes teachers use various teaching/learning methods during the lectures, practical, laboratory works, seminars, consultations. The teachers have prepared methodical material for e-learning subjects and actively use e-learning tools and virtual learning environment *Moodle*. The study methods are outlined in paragraph 40 on the self-analysis report.

The programme content meets the latest science, art and technology achievements. The list of compulsory and optional subjects can be almost unchanged, but they should be constantly modified instead taking into consideration both, the latest developments and the news.

After having analysed the study plan programme it is observed that the exam is the only assessment of all the subjects. Optional subjects as well as the subjects running for two semesters or ones including course paper might be ended by the assessment of student individual work.

During the meeting teachers requests: do not decrease contact-hours, more time for technical drawing, interactive learning tools for English, more practical hours for philosophy, more time for databases, e-learning tools, double hours for networks security.

3. Staff

Academic staff working within *Computer network administration* study programme meets the requirements laid down by the legislation.

The self analysis report (paragraph 47) states that 25 teachers work within *Computer network administration* study programme (3 assoc. professors, 16 lecturers and 6 assistants). The majority of the teaching staff holds a Master degree. 16,3% of all teachers are doctors of science.

According to the self-analysis report all the teaching staff has teaching experience (14,36 on the average years, assistants – 7, lecturers – 20.69, and assoc. professors – 7.67.). The average experience of professional activity (practical work) of the *Computer network administration* study programme teachers is 10,92 years. Analyzing the CV's most of the teachers have graduated in informatics engineering studies.

One staff unit corresponds to 1584 hours that are divided into contact hours within a programme and extracurricular time for scientific and professional activity. Number of contact hours depends on the position held: In the department, 600 contact hours are allocated for one staff unit of associate professor, 750 – one staff unit of lecturer, and 800 – one staff unit of assistant (paragraph 72).

The ratio of teachers' and students' numbers is optimal for the study programme of the informatics engineering field: in average, 1 academic staff member falls on 13,16 students (full-time studies) and 19,8 (part-time studies) (paragraph 58). This shows that teacher can spare enough time for students during the lectures and consultations.

According to the self–analysis report (paragraph 67), during the period of assessment the number of teaching staff turnover was 32%. At the period of assessment, 2 lecturers became associate professors, and 4 assistants became lecturers. The number provided reveal the

tendencies of the teachers' competence development, which has great impact on the study programme implementation and learning outcomes.

College gives a support to the professional development of its personnel. Teachers have an opportunity to study under Master of Science or Doctoral programmes. The College covers the whole amount of tuition fee or a part of it (paragraph 70). The college is also engaged in Erasmus exchange programmes for teaching staff. However during the meeting with teachers were only two lectures, who engaged in Erasmus exchange programme.

Teaching staff is evaluated by the college on a regular basis. Every year teachers prepare self-analysis of activity that helps to evaluate their competences. Every five years there is an assessment of each lecturer, which also takes into account the lecturers' efforts regarding their own staff development. During the visit it was also confirmed.

According to the self-analysis report (paragraph 53), the main focus is on publications, teachers have published 58 publications, 20 out of them are publications in the journals cited in databases. Teachers have supervised students research activities, 8 articles were published in the proceedings of student conferences.

Teachers participate in research or applied projects, related to the fields of study subjects taught.

It's very good that Experts recommendations to motivate teachers in professional sense was taken into account by Kaunas College through the external assessment in 2003., i.e. to undertake doctoral studies or to collect professional knowledge of other forms, and now 2 teachers have defended doctoral dissertations, 3 teachers prepare to defend doctoral dissertations, 2 teachers are engaged in doctoral studies of Educology, 2 teachers are CNNA instructors, 2 teachers attend the courses of CNNA instructors.

During the meeting teachers requests: double salary, network security course for teacher annually.

4. *Facilities and learning resources*

According to the self-analysis report (paragraph 75), the study programme uses a total of six auditoriums: 2 auditoriums are equipped with 70 places, and 4 auditoriums are equipped with 35 places each and 6 special laboratories: Computer networks, in which CCNA local class is operating, Computer network security, Electrical engineering, Electronics, Computer–based control, and Physics. All the auditoriums are equipped with multimedia equipment and internet access. It was also confirmed during the visit.

Library and the Centre of independent studies are equipped with 168 workplaces; 38 of them are equipped with computers and used for electronic publications search. All the rooms of Faculty of Technologies and the library are equipped with internet access over wired and/or wireless network. However, students mentioned that internet should be more faster.

The number of auditoriums and computers classrooms for the implementation of the study programme and achievement of goals is sufficient. The rooms used for studies meet the requirements of safety and health protection legislation.

According to the self-analysis report (paragraph 78), modern computer equipment is used (in 2011, computers were renewed in all computer classrooms and laboratories), software (MS Windows 7, MS Office 2010, Visual Studio.net, AutoCad, and other software is installed on the computers) and laboratory equipment, inventory, instruments for mounting and materials.

The facilities for the study programme are adequate in size and quality to provide a high level learning experience.

During the meeting with students, they express the need for better computers and better software in laboratories.

Three practices are carried out during the studies of *Computer network administration* study programme. Introductory practice takes place in the laboratories of the faculty, Industrial and Final practices are carried out in the companies. DCT has long-term agreements with the 6 social partners, but most of the students (90 %) find a practice place individually (paragraph 83).

Library of Kaunas College is a member of LABIIMSPP consortium and a member of Association of Lithuanian college libraries (LMBA). The library offers textbooks and learning resources for the students and gives access to professional journals. However, students mentioned lack of books. The literature is mostly in Lithuanian, but recently the library funds added some English literature. Students and teachers can use 6 subscribed databases: EBSCO Publishing, Oxford Art Online, Oxford Reference Online, Grove Music Online, Taylor&Francis, and Emerald Management. It was also confirmed during the visit to the library. Most textbooks or methodological publications are prepared by the lecturers and are available in sufficient numbers for the students in the library or online via Moodle. It's very good that 82% of learning and methodical material of the *Computer network administration* study programme study subjects are available in VLE Moodle. During the evaluation period, 16 e-subjects were certified.

During the evaluation period, *Computer network administration* study programme teachers have prepared 26 methodical publications, all have received an ISBN.

Students also request: bigger canteen, kitchen, elevator.

5. *Study process and student assessment*

Admission requirements meet the regulations of the Minister of Education and Science of the Republic of Lithuania which were updated in 2009. The applicants for admission are ranked according to the composite score of admission competition which consists of secondary school graduation examination on Lithuanian language, Mathematics and Information technologies and annual mark of the foreign language.

The general tendency of the number of students is stable (from 104 in 2007 to 110 in 2011). The number of enrolled students is stable, which shows the popularity of the programme.

The programme is offered in a full-time option and a part-time option. The part time option offers the same content but is spread over four instead of three years to allow students to work during their studies. The part-time programme offers the courses organized in the evenings where a larger portion of independent work is included. Studies are organized according to the study timetable, accepted by faculty Dean.

During the evaluation period, the dropout rate ranges from 33,33% in 2007−2008 study year to 17,28% in 2011−2012 (table 2.5.5.3 in paragraph 114). The most common reasons for the wastage of studies are lacking motivation for studies, academic failure, leaving the country. The faculty provides different means for reducing the wastage, such as: propose to change the mode of studies, to repeat the studies of particular study subjects and/or to attend the lectures according to individual timetable.

During the study process, students carry out applied-science research; prepare self-study projects of study subjects and graduation papers of professional bachelor. The students participate in student conference "Application of Innovations in Technologies".

Students have the opportunity to participate in mobility programmes. During the evaluation period, the number of students participating in mobility programmes is increasing from 1 student in 2007-2008 to 7 ones in 2011-2012. The Department of Computer Technologies has prepared a three-semester exchange programme "Computer Network Administration" (90 ECTS) that was attended by the students from foreign countries.

Computer network administration study programme students are provided with academic, social support and psychological assistance. According to the self−analysis report (paragraph 98), dissemination of the information about Computer network administration study programme, its organization order and modifications is secured in the virtual environment of Kaunas College. Every academic group of the first year has its own tutor – teacher of the department who helps to operatively solve arising problems and provides psychological assistance. Students have possibility to attend KK theatre study and choir, to select additional individual and group physical activities. Students have a possibility to attend lectures according to individual timetable

of lecture attendance. Progressive and active students are awarded with scholarships. They can get a one-off subsidy or a one-off scholarship for achievements in social activity of Kaunas College and Faculty of Technologies.

According to the self-analysis report (paragraph 106), at the beginning of semester, teachers introduce students into the study subject programme, its aims, procedure of learning outcomes assessment, intended learning outcomes, assessment scheme of the study subject learning outcomes (influence of the intermediate knowledge assessments on the final grade), and assessment criteria. Not all of students confirmed it during the meeting. For the assessment of student's study subject achievement, accumulative (learning outcomes are assessed by means of intermediate knowledge assessments). Students provide feedback information to the teachers about the subject teaching by filling in appropriate questionnaires.

The self assessment report (paragraph 123) indicates, that 50,6% of graduates have found a job according to their speciality, 31,3% have found another job, and 14,2% have continued the studies, and 18,2% during various periods have registered at the labour exchange office.

Part of graduation works are not in networks administration (mainly – website constructing) there should be reasonable to have respective sub-programs.

6. Programme management

For study programme delivery and quality assurance is responsible *Computer network administration* study programme committee which consist of eight people. The programme committee includes social stakeholder representatives, lecturer and student. In the self assessment report there is no any responsibility description for what each member of the committee is in charge of.

According to the self-analysis report, the programme is monitored following the amendments in the appropriate regulations, Orders of Kaunas College Director, remarks and proposals of social partners, employers, teachers and students. The internal quality evaluation is implemented by finding out student's attitude towards lectures disciplines, lecturers' self–assessment of they individual activity, recommendations of social partners, surveys, reports, presentations.

The self-analysis report states, employers, that social partners participate in the activities of Computer network administration study programme assessment and improvement. The social partners participate in the process of renewal of the learning outcomes and of the programmes of educational and professional practices, in the activities of the qualifications commissions, and

supervise the graduations works, and submit remarks, suggestions, and recommendations for assessment of learning outcomes. It was also confirmed by social partners during the meeting.

III. RECOMMENDATIONS

1. Qualification of teachers should be improved (particularly English language knowledge), the College should also pay more attention to teachers' pedagogical skills development and the promotion of mobility.
2. Number of exams per semester should be minimized, the knowledge of some of the subjects might be evaluated by the student's individual or project work.
3. Number of students' involved in the international exchange programmes should be increased.
4. The organization and management of the programme should be described clearly; responsibilities for the members of the programme committee assigned better. For example, one of programme committee member could be responsible for syllabuses of study subjects, another one - for the need for graduates in the labour market trends, another - for organizing practical training, material base, implementation of innovations to the study programme.
5. Tasks for course/ final works should be prepared by teacher and this document should be included into course/ final work description.

IV. SUMMARY

The learning outcomes of the programme clearly describe the professional orientation of the programme and meet the professional requirements of a graduate in Computer network administration. The content of the programme reflects the knowledge, skills and competences necessary for professional activity, matching the demand of the labour market and employer interests.

The claim of the programme – „to supervise a group of persons during implementation of ICT system design, installation, and operation activities" is not clearly reflected in the curriculum. Head of programme was not able to show evidence how they came to programme's learning outcomes.

Most of the subject descriptions follow the guidelines in exemplarily good fashion and give students a comprehensive overview over content, learning outcomes, working methods, assessment and workload of the subjects. The programme is critically reviewed and reformed, as well as the content and the amount of separate subjects is regularly modified too. The 6 semester is exceptionally for Final Practicum and Final Project.

The curriculum should incorporate more widely the latest world trends and developments in general and in the specific subjects.

The number of teachers is satisfactory to reach provided learning outcomes. Computer network administration study programme teachers have adequate qualification, create friendly environment for studies and help students to prepare for future profession.

Most of the teachers have graduated in informatics engineering studies. Annually is increasing number of PhD.. The programme has a sufficient number of professionally well-trained academic staff.

It is necessary to ensure a wider exposure of staff to academic and professional exchange and to practice in other countries.

It is recommended to continue the development of the teachers' competence as well as to motivate their mobility. The research work directly related to the programme being analyzed should be also developed. It would be useful to the programme to improve teachers English knowledge.

The facilities for the study programme are adequate in size and quality to provide a high level learning experience. Software is suitable, and licensed; it also meets the needs of the study programme. It is good that *Moodle* system is widely used and new sets of methodological material for programme study subjects are prepared.

It is recommended regularly to renew computer equipment and software. Increase number of good auditoriums.

The organization of the study process seems to be adequate to achieve the intended learning outcomes. The assessment scheme is transparently described and uses multiple assessment methods to check different competences of the students. The study programme documents and programme description are available on the college's website. The College also offers its students opportunities for international mobility. The academic and social support of the students seems to be appropriate.

Recommendations: to strengthen the international mobility of the students, to develop students English knowledge skills and to reduce drop-out rates in the programme study process. Considering the expansion of the geographical location of the practices places and improving the quality of the practices carried out by the companies.

Study programme quality is annually assessed by students, teachers and social partners. The organization and management of the programme should be described clearly as well as responsibilities assigned better.

Student feedback should be more regular and its impact should be more visible. Low involvement of external stakeholders at operational level.

V. GENERAL ASSESSMENT

The study programme *Computer Network Administration* (state code – 653E14001) at Kaunas College is given **positive** evaluation.

Study programme assessment in points by fields of assessment.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Staff	4
4.	Material resources	4
5.	Study process and assessment (student admission, study process student support, achievement assessment)	4
6.	Programme management (programme administration, internal quality assurance)	3
	Total:	**21**

*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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