STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

ŠIAULIŲ VALSTYBINĖS KOLEGIJOS
INFORMACINIŲ SISTEMŲ TECHNOLOGIJA PROGRAMOS (653E15005) VERTINIMO IŠVADOS

EVALUATION REPORT OF *INFORMATION SYSTEM TECHNOLOGY* (653E15005) STUDY PROGRAMME AT SIAULIAI STATE COLLEGE

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Išvados parengtos anglų kalba
Report language - English

Vilnius
2012

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	**Informacinių sistemų technologija**
Valstybinis kodas	653E15005
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	Informacinių sistemų inžinerijos profesinis Bakalauras
Studijų programos įregistravimo data	2004-06-02

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	**Information System Technology**
State code	653E15005
Study area	Technological Sciences
Study field	Informatics Engineering
Kind of the study programme	Higher education 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 in Information System Engineering
Date of registration of the study programme	2 June, 2004

CONTENTS

I. INTRODUCTION

The Lithuanian Centre for Quality Assessment in Higher Education has invited four independent experts and one representative of students (hereinafter called Expert Team) from Estonia, Latvia, and Lithuania, to review and assess the higher education college type study (professional bachelor) programme *INFORMATION SYSTEM TECHNOLOGY* (state code 653E15005, informatics engineering study field) at the Šiauliai State College (further SSC).

The study programme (further Programme), both in full- and part-time mode, is conducted by the Department of Informatics Engineering (further Department) in the Faculty of Business and Technologies (further Faculty). Implementing the Programme is supported also by other units and departments.

The Programme is aimed to train general and professional competencies related to maintenance and development of information/technology systems at companies. The need for professionals of that profile is tremendous.

In the Programme, *two specializations* are specified: (1) projection/design/, installation and maintenance of computer networks; (2) workgroup systems. Distribution of students between these specialties is rather even.

The Expert Team visited the Faculty on September 18, 2012.

First, the Expert Team met the administrative staff of SSC and Faculty represented by

Deputy Director for Academic Activities Danutė Valentienė
Head of the Information Technologies Center Donatas Daugirdas
Head of the Academic Mobility and Project Management Department Nedas Jurgaitis
Head of the Study Record Department Rasa Guntienė
Head of the Student Admission and Career Center Onutė Raščiuvienė
Specialist for the Quality of Studies Skaistė Buivytė
Faculty Dean Saulius Palepšaitis
Chairperson of Faculty Board Virginija Latvėnienė
Faculty Pro-dean Zita Sluckuvienė
Faculty Pro-dean Liucija Urboniene

Some general issues concering SSC structure and administration were briefly discussed. Also, a short relevant presentation was given by Nedas Jurgaitus.

Next, a meeting with staff (5) responsible for preparation of the Self-Evaluation Report (except Saulius Palepšaitis, who had participated in previous meeting) was conducted. At this meeting, the Expert Team was given answers to the questions concerning less uncovered in the self-assessment report issues.

After that, a meeting with 10 members of teaching staff (including 6 teachers from the Department of Informatics Engineering, 3 from the Electrical Engineering Department, 1 from the Accounting and Finance Department) took place.

The Expert Team conducted also interviews with some students. The group consisted of 14 students, among them 5 3rd-year undergraduates, 6 2nd-year undergraduates, 1 1st-year undergraduate student, and 2 members of the SSC Student Parliament. The Expert Team was familiarized with students' attitude towards the Programme; the students expressed positive opinions about the Programme and their social life. Students outlined also some issues which could be improved (too much self-work in the end of semester, unevenly scheduled lectures, more consultations are needed for part-time students, et al.).

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

Finally the Expert Team met 7 graduates of the Programme and 11 social partners (including potential future employers of the students). They expressed a positive attitude about the Programme. The Dean of the Faculty of Mathematics and Informatics of Šiauliai University claimed that each year they enroll SSC alumni, once - even 12.

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. The self-evaluation report (hereinafter SER) 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.

Remark. In the SER, usage of English word *projection* instead of design(ing) (or engineering or planning) is rather confusing. Commonly, *projection* stands more for *mapping*.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The Programme aims and learning outcomes are well defined, clear. However, they are publicly accessible only in Lithuanian. Some misunderstanding of concept *learning outcome* can be seen in SER item 8: *"Learning outcomes show the level that is expected to be reached by the student whose performance is very good."*, should be: … *by the student who have passed/graduated* ... . However, during meetings teachers demonstrated the right attitude and better understanding of this concept.

The Programme aims and learning outcomes are based on the academic and professional requirements, public needs and the needs of the labour market. However, no careful comparisons with other similar study programs performed.

Some deficiency exists, as pointed out in SER item 12: "*There is a lack of participation of employers, various associations and confederations when giving orders and forecasts for the necessity of new competencies and development of the content of the subject in the study Programme*."

The graduates' employment according their specialty is surprisingly low (from 21 to 42%). It was 21% in the year 2009, when the crisis in Lithuania was on the top level. Now the percentage of employment is steadily growing. As alumni specified, around 10-15% of their colleagues are unemployed.

The Programme aims and learning outcomes are consistent with the type and level of studies and the level of qualifications offered. The name of the Programme, its learning outcomes, content and the qualifications offered are compatible with each other.

Observation: the "keyword" *company* occurs in almost all particular statements about aims and learning outcomes of the Programme. However, this fact is not well reflected in the content of the Programme where only relatively small amount business-related issues are present.

Moreover, while aims (SER item 7) of the Programme are :

- *To analyse particularity of a company, information systems used by the company, to submit proposals for improving company efficiency;*
- *To install and apply computer hardware and software for company activities using advanced information technology;*
- *To integrate information technology systems into the company activities.*

it seems that one of the learning outcomes, namely (SER item 7):

- *Will know and apply methods of calculus, physical phenomena and quantitative expression of the phenomena.*

is superfluous and digressive with regard to the aims. Probably the group (module) of mathematic and physics subjects should be revised and reduced. This would leave more space for business (company) processes oriented issues.

In conclusion, due to some negative points (e.g. graduate's employment rate) this evaluation area in the Programme cannot be considered as exceptionally good. However, it certainly has distinctive features and the SSC can actively continue its systematic development further on (making also use of the abovementioned recommendations).

2. Curriculum design

The curriculum design meets legal requirements. Unfortunately, it lacks module-structure (though, the latter is not officially requested for first level study programmes in Lithuania).

Study subjects and modules are spread evenly, their themes are not repetitive. But some subjects seem not to contribute much for learning outcomes of the Programme. No prerequisites are given for any subject.

The content of the subjects is consistent with the type and level of the studies. It is hard to decide if the content and methods of the subjects/modules are the most appropriate for the optimal achievement of the intended learning outcomes. It would be highly desirable to have subjects grouped into modules (having their own aims and learning outcomes), corresponding to the subfields, such as basics (fundamentals), hardware, software, business etc. It would allow to

check and to balance correctly module volumes according to the Programme aims and learning outcomes. Also, the number of tiny courses (3 ECTS) could be decreased (for instance, by joining some of them into more voluminous ones).

The scope of the Programme is sufficient to ensure learning outcomes.
It is somewhat questionable if the content of the Programme reflects the latest achievements in science and technologies: no comparison with other similar study programmes has been provided. It seems, there is too much mechanical engineering for students of informatics. Alumni mentioned, that some subjects were not necessary (psychology, ethics), general subjects are not linked to Programme specifics (mechanics, economics, etc.). Employers, in turn, preferred to get specialists with basic knowledge and then to improve by themselves.

In general, the Programme's curriculum design develops systematically and has distinctive features. Notwithstanding the abovementioned minor deficiencies it can be raised to the exceptionally good level in a short period of time.

3. Staff

The Programme is provided by the staff meeting legal requirements. The qualifications of the teaching staff are adequate to ensure learning outcomes. Anyway, there could be more doctors teaching informatics core subjects. Fortunately, some of the young teachers are doctoral students.

The number of the teaching staff is adequate to ensure learning outcomes. Teaching staff turnover is able to ensure an adequate provision of the Programme.

The higher education institution creates conditions for the professional development of the teaching staff necessary for the provision of the Programme. The teachers mentioned good conditions for raising professional qualification, everybody can go to conferences, etc.

Teaching staff of the Programme is involved in research directly related to the Programme.

No doubt, the evaluation area *Staff* in the Programme develops systematically and has distinctive features.

4. Facilities and learning resources

The premises for studies are quite satisfactory both in their size and quality. The teaching and learning equipment (laboratory and computer equipment, consumables) are adequate both in size and quality. Different types of software are used in classes. For groupware specialty studies Lotus Notes and open source groupware software are used. However, it would be helpful to have more special software (close to database management systems in developed companies).

There are adequate arrangements for students' practice. However (according to students remarks), students usually find the practice placements on their own.

Teaching materials (textbooks, books, periodical publications, databases) are adequate and accessible. Students were able to mention different types of software used in classes. However, textbooks in English seem not popular among the students: when asked about English textbooks, what they have read, students mentioned only some handbooks (Java, PHP, MySQL). So, the students should be encouraged to use study materials in English.

Some of the students' complaints: there is no gym; there are small portions of food but high prices in the canteen.

Summarizing: although this evaluation area cannot considered as exceptionally good, it is obviously developing and has distinctive features.

5. Study process and student assessment

The admission requirements are well-founded.
The organization of the study process ensures an adequate provision of the Programme and the achievement of the learning outcomes.

Meetings are organized by group curators with the students of the Programme during which the purpose of the Programme, learning outcomes, professional and employment opportunities, relevant questions of formation of professional skills are discussed.

On purpose to make the beginning of the studies and adaptation of the students easier, in September and October additional lectures of mathematics and physics are delivered to the first-year students. The extra job of teachers is remunerated.

Students are encouraged to participate in applied research activities. Student scientific association was mentioned in SER, though students at the meeting did not know anything about it.

Students have opportunities to participate in student mobility programmes. Students participated in Erasmus exchange programme only in years 2008 and 2012. In-between (years 2009, 2010, 2011) students had refused mainly because of the financial problems: Erasmus stipendium was considered not enough for staying in another country. There is no student (incoming) mobility from abroad.

The higher education institution ensures an adequate level of academic and social support. In general, the assessment system of students' performance is clear, adequate and publicly available. However, marks of final theses seem overvalued by 1-2 points; the assessment scheme should be clearer.

Professional activities of the majority of graduates meet the programme providers' expectations.

Moodle environment is not in wide use for part-time students, tasks are given mainly in paper and by e-mail form. Though, there are some subjects available for distance learning.

Topics of final projects of students comply with their specialties.

In general, this evaluation area in the Programme has some minor deficiencies; nevertheless, it develops quite systematically and has certain distinctive features.

6. Programme management

Responsibilities for decisions and monitoring of the implementation of the programme could be even more clearly and more officially/formally allocated.

Information and data on the implementation of the Programme are regularly collected and analyzed.

The outcomes of internal and external evaluations of the Programme are used for the improvement of the Programme. The evaluation and improvement processes involve stakeholders. The internal quality assurance measures are effective and efficient. Aims and learning outcomes are periodically reviewed and updated regarding the opinions of social partners. However, involvement of students and employers in improving of study program might be even stronger and more systematic.

In conclusion, despite of few minor drawbacks, this evaluation area can be considered as exceptionally good.

III. RECOMMENDATIONS

1. Publicize internationally the study programme, Department of Informatics Engineering and Faculty of Business and Technologies. Aims and learning outcomes of the study programme should be made publicly available in English.

2. Continue improving the programme structure and content. Eliminate learning outcomes, which do not directly contribute to any aim of the programme. Introduce (at least informal) module structure for the programme with intention to balance better their volumes in accord with the programme aims. Decrease the number of tiny (3 ECTS) courses. Make careful comparisons with other similar study programmes, consider internationally recognized recommendations.

3. Pay more attention to staff academic development. Intensify students' and teacher's incoming international exchange.

4. Contribute to development at the Šiauliai State College the system for assessing academic achievements acquired by the students in non-formal and independent learning ways.

5. Actively introduce e-learning methods, in particular, for part-time studies.

6. Clearly allocate individual and joint responsibilities and tasks for development, monitoring and implementing the study programme. Make serious efforts to increase number of full-time teachers at the leading department (Department of Informatics Engineering). Provide personal workplaces for all of the department staff members.

7. Consider upgrading special software in accord of companies' advanced technology spectrum.

8. Intensify contacts with stakeholders. Involvement of students and employers in improving of study programme should be stronger. Encourage students to express freely their opinions.

IV. SUMMARY

The higher education college type (professional bachelor) study programme *INFORMATION SYSTEM TECHNOLOGY* (state code 653E15005, informatics engineering study field) at the Šiauliai State College, both in full- and part-time mode, is conducted by the Department of Informatics Engineering in the Faculty of Business and Technologies. Implementing the programme is supported also by several other units and departments of the college.
The programme is aimed to train general and professional competencies related to maintenance and development of information/technology systems at companies. In the study programme, two specializations are specified: (1) design, installation and maintenance of computer networks; (2) workgroup systems.
In general, the study programme is developed quite systematically and has a number of positive features. In the following, the main advantages and some disadvantages (issues to improve) are outlined.

Advantages:
The programme aims and learning outcomes are well defined and clear. They are largely based on the academic and professional requirements, public needs and the needs of the labour market. The programme is targeted to information systems in companies. The scope of the study programme is sufficient to ensure learning outcomes.
The study programme is provided by the staff meeting legal requirements. The college supports the professional development of the teaching staff necessary for the provision of the programme. Teaching staff is involved in research directly related to the programme.
The premises for studies as well as the teaching and learning equipment (laboratory and computer equipment, consumables) are quite satisfactory both in their size and quality. Appropriate types of software are used in classes.
The admission requirements are well-founded. The organisation of the study process ensures an adequate provision of the programme and the achievement of the learning outcomes. Students are consulted well. Moodle virtual learning environment is used for majority subjects. Topics of final projects of students comply with their specialties.
The internal quality assurance measures are effective and efficient. Information and data on the implementation of the programme are regularly collected and analysed. Aims and learning outcomes are periodically reviewed and updated regarding the opinions of social partners. The evaluation and improvement processes involve some stakeholders. The outcomes of internal and external evaluations of the programme are used for the improvement of the programme.

Issues which could be improved:
The programme aims and learning outcomes are publicly accessible only in Lithuanian. No comparison with other similar study programmes is provided. There is a lack of participation of employers, various associations and confederations giving orders and forecasts for the necessity of new competencies and development of the content of the subjects in the programme.
According to the aims and learning outcomes, the programme is targeted to information systems in companies. However, this fact is not clearly reflected in the content of the study programme where only relatively small amount business-related issues are present. The current balance between educational subfields, like basics (fundamentals), hardware, software, business etc. is not explicitly substantiated. No prerequisites are given for any subject.

The virtual learning environment is not in wide use for part-time students. It would be helpful to have more special modern software features in labs.
The assessment system of students' performance is mostly clear and adequate and publicly available. Though, marks for final theses seem overvalued by 1-2 points; the assessment scheme is not clear. Although there are rather adequate arrangements for students' practice, students have often to find the practice placements on their own. There is no (incoming) mobility from abroad.
It would be desirable to have more doctors teaching informatics core subjects. Involvement of students and employers in improving of the study programme could be stronger and more systematic.

V. GENERAL ASSESSMENT

The study programme *Information System Technology* (state code – 653E15005) at Šiauliai State 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	3
4.	Material resources	3
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	4
	Total:	19

*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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