



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Žemaitijos kolegijos
INFORMACINIŲ SISTEMŲ INŽINERIJOS
STUDIJŲ PROGRAMOS (653E15001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF INFORMATION SYSTEMS ENGINEERING
STUDY PROGRAMME (653E15001)
at Zemaitija College

Grupės vadovas: Prof. Vladimir Oleshchuk
Team Leader:

Grupės nariai: Prof. Jūri Kiho
Team members: Dr. Lina Kankevičienė
Adomas Svirskas
Paulius Simanavičius

Išvados parengtos anglų kalba
Report language - English

Vilnius
2012

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	Informacinių sistemų inžinerija (nuo 2010 m.) Kompiuterinė technika (nuo 2006 m.)
Valstybinis kodas	65307T112, nuo 2010 m.m. 653E15001
Studijų sritis	Technologijos mokslų studijų sritis
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3 metai), iššęstinė (4 metai)
Studijų programos apimtis kreditais	180 kreditų
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informacinių sistemų inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2006 m.

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	Computer Technology (since 2006) Information Systems Engineering (since 2010)
State code	65307T112, since 2010 653E15001
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 years), part-time (4 years)
Scope of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor Degree of Information Systems Engineering
Date of registration of the study programme	2006

© Studijų kokybės vertinimo centras
The Centre for Quality Assessment in Higher Education

CONTENTS

I. INTRODUCTION	4
II. PROGRAMME ANALYSIS	5
1. Programme aims and learning outcomes.....	5
2. Curriculum design	5
3. Staff	6
4. Facilities and learning resources	6
5. Study process and student assessment.....	7
6. Programme management	7
III. RECOMMENDATIONS	8
IV. SUMMARY	9
V. GENERAL ASSESSMENT	10

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, Lithuania and Norway to review and assess the higher education first cycle study (Bachelor) programme *Information Systems Engineering* (state code 653E15001, informatics engineering study field) at the Zemaitija College (ZC). The study programme under evaluation is directed by the Department of Information Technology (DIT) of the Rietavas Faculty.

The Expert Team visited the Faculty on October 23.

First, the Expert Team met the administrative staff of the Faculty (4). Next, at the meeting with staff members (4) responsible for preparation of the Self-assessment report the Expert Team was given answers to the questions concerning less covered in the Self-assessment report issues. After that, a meeting with members of teaching staff (11) took place.

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

The Expert Team conducted also interviews with some students (10). The Expert Team was familiarized with students' attitude towards the study programme. The meeting was carried out in an active and constructive atmosphere. The students expressed mostly positive as well as critical opinions about the programme.

Finally, the Expert Team met graduates (4) and potential future employers/social partners (5) of the students. They expressed positive attitude about the study programme. At the conclusion of the visit, the Expert Team conducted a meeting with staff of the Faculty and highlighted some strengths and weaknesses of the Programme.

In the following, the findings of the Expert Team are outlined. The Self-assessment report submitted by the 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 need for this programme comes from the analysis of the labour market demand for IT professionals in Western Lithuania. In our opinion, the programme under assessment is not a unique comparing with other bachelor level programmes in the field of Informatics Engineering in Lithuania. However, it is aimed to cover regional demands on IT specialists (in Western Lithuania).

Objectives and learning outcomes of Information Systems Engineering study programme are published in the College website www.zemko.lt. Information about the study programme in English is very short and it is only about the former study programme of Computer Technology (65307T112).

The purpose of the study programme is to prepare an information systems engineering specialist who is able to perform activities in the following areas: design and installation of computer systems and computer networks, maintenance of computers and their networks and organization of business activity. However, it is not clear that learning outcomes of the programme comply with the purpose and aims of the program.

2. Curriculum design

Some study subjects do not relate with the learning outcomes of the study programme. Employers noticed the lack of theoretical knowledge of networks and recommended to expand the network course by adding topics about servers. Prerequisites must be more specific and focused on what is really needed (for example, specified by subject codes).

Forms and methods used in classes are satisfactory. Curriculum must be updated to make the programme more focused on IT related subjects by replacing general subjects that usually not considered as a part of IT curriculum. For example, remove Electrical Engineering Materials, Technical Mechanics, etc. from the curriculum and focus more attention to teaching modern programming languages, networks, protocols, security, using of open source software, etc. Also, teach Engineering Graphics based on AutoCAD (eliminate drawing by hand). The scope of the study programme must reflect more the learning outcomes. Students need stronger programming skills with more practical training in programming (introduce more practical examples in the courses).

3. Staff

Through the academic year of 2010–2011 there were 30 teachers working in the study programme with the following educational qualifications: three associate professors and twenty-seven lecturers. Three of them have a PhD degree, but they all are not permanent employees of Zemaitijas College.

Teachers very actively participate in international projects, e.g.: Grundtvig 2 Learning Partnership Project Blended Learning and the Intercultural Dialogue LLP-GRU-MP-2007-EN-00124; Leonardo da Vinci Transfer of Innovation Project ESPRIT – Application of Empirical Educational Innovations in the Educational Process LLP-LDV/TOI/2007/IT/189; 7 teachers participated in the Erasmus Mobility Programme. They taught lectures in Piaget Institute, Portugal and in Moray College, Scotland. Two teachers participated in traineeships in Portugal; 12 teachers participated in international exchange programmes. They went to Norway and Belgium under the project of the Grundtvig Programme. 8 teachers were trainees/taught lectures at universities in Portugal, Scotland, Turkey, Romania under the Erasmus Mobility Programme; 4 teachers went to universities in Turkey and Belgium. Two employees improved their professional qualification in Belgium and Portugal in accordance with the Erasmus Teachers and Staff Mobility Programme.

There is a lack of permanent staff members with doctoral degrees in science and technology. Too few teachers and students are involved in research and publish reports.

4. Facilities and learning resources

There are a sufficient number of lecture rooms and computer classes for both implementing the study programme and performing individual assignments. Technical (safety) and hygiene conditions of the premises meet the prescribed requirements and norms. Working places and working conditions (in particular, opening hours) in libraries (reading rooms) for maintaining high-level studies are suitable. The computer hardware and software are up-to-date and legal. Available equipment are suitable and sufficient for studies

Departments, teachers and the library cooperate in ordering literature intended for studies and science. The library subscribes to 39 different periodicals. However, the IT literature is insufficient and outdated.

Teachers in the list of the main and additional literature do not indicate their own teaching materials. During the meeting, it was clarified that teachers have their teaching material in print and online versions available for students.

Sometimes too old references are used (for example: in the list of recommended literature of the subject *Technical Mechanics* 3 cr. 2 sem: one can find the books of 1973, 1985, 1979, etc.), in general, the main literature lists are too long. The number of information sources in foreign languages is insufficient.

5. Study process and student assessment

Admission to the programme is organized according to the legal acts and regulations. The graduation rate is too low (about 36 %). Approximately only 50 % of graduates were established on the labour market. It is also too low level.

The students have possibility of Erasmus exchange, e.g., Moray College, Scotland (UK), DKOMMER, Vienna, (Austria). The ZC ensures an adequate level of academic and social support for students. The assessment system of students' performance is clear, adequate and publicly available.

6. Programme management

Teachers of the Rietavas Faculty are involved in developing the study programme, considering the inclusion of new subjects, changing the scope and layout of the subjects and address relevant issues. With a view to a better distribution of responsibilities for decisions and monitoring of the programme implementation, we recommend to establish the Study Programme Committee.

Students are involved in improvement of study programmes at ZC. The quality of the study programme is regularly monitored via surveys on the quality of teachers' work, the sufficiency and level of acquired theoretical knowledge and practical skills. The programme graduates expressed their opinions about some mismatch of knowledge and skills they receive during studies (as study programme learning outcomes) and the requirements they face at their working places. Social partners are contributing to the improvement of the quality of study programme.

III. RECOMMENDATIONS

1. Update the scope and content of the programme to ensure achievements of the learning outcomes (replace subjects like Occupational safety, Chemistry, Mechanical engineering, Engineering and Electrotechnical materials, etc. by IT related).
2. Add new and/or modify existing IT related subjects: introduce elements of discrete mathematics into math courses; add network security concepts; more network management and server administration; more programming and modern programming languages.
3. Students need more practical experience and skills (in network maintenance, server administration, computer reparation, etc.).
4. Subjects' prerequisites must be described in more specific and focused way (for example, specified by subject codes).
5. There are too many small subjects – have to be consolidated.
6. Provide better conditions for students in order to increase the number of graduate students, e.g., to increase students' motivation, to improve academic support for weak students, etc.
7. Strengthen qualification of teachers by increasing the number of permanent teachers with scientific degrees.

IV. SUMMARY

The higher education first cycle study (Bachelor) programme *Information Systems Engineering* (state code 653E15001, informatics engineering study field) at the Zemaitija College (ZC) is directed by the Department of Information Technology (DIT) of the Rietavas Faculty. The purpose of the study program is to prepare information systems engineering specialists to perform activities in the following areas: design and installation of computer systems and computer networks, maintenance of computers and their networks.

The most positive aspects are teachers' active participation in international (educational) projects; comfortable study environment; is constantly renewed equipment necessary for the study programme (project *The Development of Žemaitija College Science Studies Infrastructure VP3 – 2.2 – MES – 15 – K – 01 – 003*); opportunities for students' participation in student mobility programmes; good contact between students and teaching staff, teachers are helpful.

The issues, which have to be improved: the curriculum should be refined and consolidated (in particular, number of small subjects has to be reduced); new modern IT subjects should be added; the graduation rate is to be increased; more permanent staff members with doctoral degree are needed.

V. GENERAL ASSESSMENT

The study programme INFORMATION SYSTEMS ENGINEERING (state code – 653E15001) at Žemaitija 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	2
3.	Staff	2
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)	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: Vladimir Oleshchuk

Grupės nariai: Jūri Kiho

Team members: Lina Kankevičienė

Adomas Svirskas

Paulius Simanavičius

**EXTRACT OF FIRST CYCLE STUDY PROGRAMME *INFORMATION SYSTEMS ENGINEERING* (STATE CODES –653E15001, 65307T112) AT ZEMAITIJA COLLEGE
2013-01-07 EVALUATION REPORT NO. SV4-7**



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

**ŽEMAITIJOS KOLEGIJOS *INFORMACINIŲ SISTEMŲ INŽINERIJOS* PROGRAMOS (653E15001)
VERTINIMO IŠVADOS**

**EVALUATION REPORT
OF *INFORMATION SYSTEMS ENGINEERING*
(653E15001)
STUDY PROGRAMME
AT ZEMAITIJA COLLEGE**

Team Leader: Vladimir Oleshchuk

Team members: Jūri Kiho

Lina Kankevičienė

Adomas Svirskas

Paulius Simanavičius

Išvados parengtos anglų kalba
Report language - English

Studijų kokybės vertinimo centras

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	Informacinių sistemų inžinerija
Valstybinis kodas	653E15001
Studijų sritis	Technologijos mokslų studijų sritis
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3 metai), iššęstinė (4 metai)
Studijų programos apimtis kreditais	180 kreditų
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informacinių sistemų inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2006 m.

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	Information Systems Engineering
State code	653E15001
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 years), part-time (4 years)
Scope of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor Degree of Information Systems Engineering
Date of registration of the study programme	2006

© Studijų kokybės vertinimo centras
The Centre for Quality Assessment in Higher Education

<...>

V. GENERAL ASSESSMENT

The study programme INFORMATION SYSTEMS ENGINEERING (state code – 653E15001) at Zemaitija 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	2
3.	Staff	2
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)	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.

IV. SUMMARY

The higher education first cycle study (Bachelor) programme *Information Systems Engineering* (state code 653E15001, informatics engineering study field) at the Zemaitija College (ZC) is directed by the Department of Information Technology (DIT) of the Rietavas Faculty. The purpose of the study program is to prepare information systems engineering specialists to perform activities in the following areas: design and installation of computer systems and computer networks, maintenance of computers and their networks.

The most positive aspects are teachers' active participation in international (educational) projects; comfortable study environment; is constantly renewed equipment necessary for the study programme (project *The Development of Žemaitija College Science Studies Infrastructure VP3 – 2.2 – MES – 15 – K – 01 – 003*); opportunities for students' participation in student mobility programmes; good contact between students and teaching staff, teachers are helpful.

The issues, which have to be improved: the curriculum should be refined and consolidated (in particular, number of small subjects has to be reduced); new modern IT subjects should be added; the graduation rate is to be increased; more permanent staff members with doctoral degree are needed.

III. RECOMMENDATIONS

1. Update the scope and content of the programme to ensure achievements of the learning outcomes (replace subjects like Occupational safety, Chemistry, Mechanical engineering, Engineering and Electrotechnical materials, etc. by IT related).
2. Add new and/or modify existing IT related subjects: introduce elements of discrete mathematics into math courses; add network security concepts; more network management and server administration; more programming and modern programming languages.
3. Students need more practical experience and skills (in network maintenance, server administration, computer reparation, etc.).
4. Subjects' prerequisites must be described in more specific and focused way (for example, specified by subject codes).
5. There are too many small subjects – have to be consolidated.
6. Provide better conditions for students in order to increase the number of graduate students, e.g., to increase students' motivation, to improve academic support for weak students, etc.
7. Strengthen qualification of teachers by increasing the number of permanent teachers with scientific degrees.

<...>

**KAUNO TECHNOLOGIJOS UNIVERSITETO PIRMOSIOS PAKOPOS STUDIJŲ
PROGRAMOS *INFORMACINIŲ SISTEMŲ INŽINERIJA* (VALSTYBINIS KODAS –
653E15001, 65307T112) 2013-01-07 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-7
IŠRAŠAS**

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Žemaitijos kolegijos studijų programa *Informacinių sistemų inžinerija* (valstybinis kodas 653E15001) vertinama teigiamai.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	3
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

Koleginių pirmosios pakopos (bakalauro) studijų programą *Informacinių sistemų inžinerija* (valstybinis kodas 653E15001, informatikos inžinerijos studijų kryptis) Žemaitijos kolegijoje (ŽK) vykdo Rietavo fakulteto Informacinių technologijų katedra (ITK). Studijų programos tikslas yra rengti informacinių technologijų specialistus veiklai tokiose srityse kaip kompiuterinių sistemų ir kompiuterinių tinklų projektavimas ir diegimas, kompiuterių ir jų tinklų priežiūra.

Labiausiai teigiami programos aspektai yra aktyvus dėstytojų dalyvavimas tarptautiniuose (ugdymo) projektuose, patogi studijų aplinka, nuolat atnaujinama studijų programai būtina įranga (projektas *Žemaitijos kolegijos mokslo studijų infrastruktūros plėtra*

VP3 – 2.2 – MES – 15 – K – 01 – 003), galimybės studentams dalyvauti judumo programose, geri santykiai tarp studentų ir dėstytojų, paslaugūs dėstytojai.

Dalykai, kuriuos reikia tobulinti: studijų turinys turėtų būti išgrynintas ir apjungtas (sumažinti nedidelės apimties studijų dalykų skaičių), reiktų pridėti naujų šiuolaikinių IT dalykų, reikia padidinti studijų baigimo rodiklius, reikia daugiau mokslo daktaro laipsnį turinčių nuolatinių dėstytojų.

III. REKOMENDACIJOS

8. Atnaujinti programos apimtį ir turinį siekiant užtikrinti studijų rezultatų pasiekimą (tokius studijų dalykus kaip *Darbo sauga, Mechaninė inžinerija, Inžinerija ir elektrotechnikos medžiagos* ir pan. pakeisti studijų dalykais, susijusiais su IT).
9. Pridėti naujų ir/arba pakeisti esamus su IT susijusius studijų dalykus: į matematikos dalykus įvesti diskrečiosios matematikos elementų, pridėti tinklo saugos koncepcijos dalyką, daugiau kalbėti apie tinklo vadybą ir serverių administravimą, daugiau programavimo ir šiuolaikinio programavimo kalbų dalykų.
10. Studentams reikia daugiau praktinės patirties ir įgūdžių (tinklų priežiūros, serverių administravimo, kompiuterių taisymo srityse).
11. Studijų dalykų išankstinius reikalavimus būtina aprašyti konkrečiau ir kryptingiau (pavyzdžiui, pagal studijų dalykų kodus).
12. Yra pernelyg daug smulkių studijų dalykų – juos būtina apjungti.
13. Norint padidinti absolventų skaičių, būtina studentams sudaryti geresnes sąlygas, pavyzdžiui, didinti studentų motyvaciją, gerinti akademinę paramą prasčiau besimokantiems studentams.
14. Stiprinti dėstytojų kvalifikaciją didinant mokslinį laipsnį turinčių nuolatinių dėstytojų skaičių.

<...>

Paslaugos teikėja patvirtina, jog yra susipažinusi su Lietuvos Respublikos baudžiamojo kodekso⁴ 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė, parašas)

⁴Žin., 2002, Nr.37-1341