



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO  
***VERSLO INFORMACINIŲ SISTEMŲ STUDIJŲ***  
**PROGRAMOS (612I20003)**  
**VERTINIMO IŠVADOS**

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**EVALUATION REPORT**  
**OF *BUSINESS INFORMATION SYSTEMS* (612I20003)**  
**STUDY PROGRAMME**  
**at *VILNIUS GEDIMINAS TECHNICAL UNIVERSITY***

Grupės vadovas:  
Team leader: Prof. Andrew McGettrick

Grupės nariai:  
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Išvados parengtos anglų kalba  
Report language - English

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Verslo informacinės sistemos</i>
Valstybinis kodas	612I20003
Studijų sritis	Fizinių mokslų
Studijų kryptis	Informacijos sistemos
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4 m.), iššęstinė (5,5 m.)
Studijų programos apimtis kreditais	240 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informacijos sistemų bakalauras
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2011 m. balandžio 7 d. įsakymu Nr. SR-1467

## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Business Information Systems</i>
State code	612I20003
Study area	Physical Sciences
Study field	Information Systems
Kind of the study programme	University Studies
Study cycle	First
Study mode (length in years)	Full-time (4 years), part-time (5,5 years)
Volume of the study programme in credits	240 ECTS
Degree and (or) professional qualifications awarded	Bachelor of Information Systems
Date of registration of the study programme	7 of April 2011, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. SR-1467

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The Centre for Quality Assessment in Higher Education

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## I. INTRODUCTION

The procedures of the external evaluation of Vilnius Gediminas Technical University (VGTU, for short) first-cycle study programme in *Business Information Systems* were initiated by the Centre for Quality Assessment in Higher Education of Lithuania; it selected and appointed the external evaluation Review Team formed by the head, Professor Andrew McGettrick (University of Strathclyde, Scotland), Professor Jerzy Marcinkowski (University of Wrocław, Poland), Professor Jyrki Nummenmaa (University of Tampere, Finland), Asta Urmanavičienė (employer representative – social partner, Lithuania), and Tautvydas Jančis (student representative – Kaunas University of Technology, Lithuania).

For the evaluation, the following documents have been considered:

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 Team to VGTU on October 11<sup>th</sup>, 2013. The visit included meetings with different groups: the administrative staff of the Faculty, the staff responsible for preparing the self-evaluation documents, teaching staff, students and social partners. The Review Team evaluated various support services (classrooms, laboratories, library, computer facilities), examined a sample of students' work, and various other materials. After the Review Team discussions and the additional preparation of conclusions and remarks, preliminary general conclusions of the visit were presented to staff of the study programme. After the visit, the Review Team met to discuss and agree the content of their final report, which represents the agreed views of the Review Team.

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

- The mission of VGTU is to *educate and foster a personality who is public-spirited, creative, entrepreneurial, competitive, receptive to science and state-of-the-art technologies as well as cultural values; and help ensuring the country's public, cultural and economic prosperity, social concord and preservation of the national cultural identity.*

- The vision of the VGTU is to be a *prestigious Lithuanian establishment of higher education, whose scientific and study level reach the standards of the best European technical universities, attractive to Lithuanian and foreign scientists and students, and is able to meet environmental challenges and has a significant social importance for development of the country.*

This study programme in *Business Information Systems* leads to a Bachelors degree in Information Systems. It is offered in both in a full-time and a part-time mode; in the full-time mode the programme runs for 8 semesters and in the part-time mode some 11 semesters. It is under the control of the Department of Information Systems.

The programme had its first intake of students in 2011. Accordingly only two years of the programme had been completed at the time of the Review; the students in the third year of the programme were the most advanced; there had been no graduates and so no alumni and no employers of graduates. The SER provided very helpful narrative on each of: the study programme aims and the intended learning outcomes; the curriculum design; the teaching staff; the material resources; the study process and student assessment; and, programme management.

In carrying out the review, the Panel was charged with addressing a number of different degree programmes in computing within the University, indeed within the same Faculty. As a result, there was considerable commonality in areas such as resources, staffing, administrative oversight, etc. Accordingly the Panel felt that it was appropriate on occasion to replicate certain aspects of their findings in the various reports.

## II. PROGRAMME ANALYSIS

### *1. Programme aims and learning outcomes*

In the SER, the main aim of the programme is described as ‘to provide high quality first cycle university education in the field of information systems’. This is further refined and interpreted to mean: providing knowledge that forms the basics of informatics studies as well as exposing students to specialisms; training students to be able to understand, articulate and explain business needs; providing a background in social sciences, economics and management; and fostering desirable qualities such as creativity as well as certain desirable personal qualities.

The study programme, as well as courses intended learning outcomes are formulated in a helpful way and they correlate well with the aims of the programme. Moreover, for the most part they are set out clearly and it is relatively easy to check whether they have been achieved. They are divided into five different areas: knowledge and its applications (generally on aspects of informatics), special abilities (covering programming, the ability to analyse business needs and to design and implement business information systems), the ability to carry out research (gathering and analysing information), social abilities (teamwork and communication) and personal abilities (critical thinking, report writing, and time management). The Review Team considered these highly appropriate to a degree programme of this kind.

Comprehensive information on the aims and intended learning outcomes of the *Business Information Systems* study programme is available in Lithuanian and English languages via the university website: <http://studijos.vgtu.lt/studiju-programos/>.

### *2. Curriculum design*

The SER points out that the design of the curriculum is based to a large extent on recommendations from the ACM, the Association for Computing Machinery, and AIS, the Association for Information Systems. These two bodies produce curriculum guidance on information systems on a regular basis and this is widely regarded as reflecting the best practice. However, there was some local customizing of the recommendations, as there should be. The mathematics courses fell into this category and came in for criticism. The Review Team felt that this issue should be addressed and that syllabuses generally should be reviewed to ensure they were up-to-date and relevant.

The mathematics study subjects included courses on differential calculus, integral calculus, analytical geometry and elements of vector algebra, numerical methods as well as a course on

discrete mathematics. The Review Team recognised the important role of mathematics but felt that there was far too strong an emphasis on continuous mathematics for a programme of this kind. The emphasis should be much more on discrete mathematics but also on conveying to students important concepts from mathematics and their relevance to informatics.

It was also important that all students received education on professional, legal and ethical issues in informatics. Currently some of these topics, e.g ethics and aspects of security, appeared to be in optional courses. Today issues of privacy, security and the integrity and protection of information are of vital importance.

The education of full-time students and part-time students was organised essentially as two separate streams. For the most part, there was no overlap in terms of sharing of classes between the two groups. The stream for part-time students took place in evenings and on Saturdays and tended to utilise distance education materials. Transfer between part-time mode and full-time modes of study was possible and could involve students in greater personal study and taking the requisite assessments.

Generally the Review Team felt that, on current evidence, the curriculum would meet legal requirements and was sufficient to address the intended learning outcomes. There are 240 ECTS credits in total: these include 15 ECTS credits for general university course units, 186 ECTS credits for the main field of study (27 ECTS credits for theoretical fundamental topics, 16 ECTS credits for other general subjects of basics, 57 ECTS credits for the major field of study subjects, 19 ECTS credits for relevant social sciences subjects, 35 ECTS credits for the special subjects of study area, 23 ECTS credits for the subjects of specialization and 9 ECTS credits for elective subjects), and 15 ECTS credits for periods in professional internship. There are also 8 ECTS credits for free choice obligatory subjects and 16 ECTS credits for the final thesis. There is a total of 240 ECTS credits and these are spread evenly over the various semesters.

### ***3. Staff***

The study programme is implemented by staff from various Faculties: 41% from the Department of Information Systems in the Faculty of Fundamental Sciences, 27% from other Departments in the Faculty of Fundamental Sciences, and 32% by staff from other Faculties, notably the Faculty of Business Management and the Faculty of Creative Industries.

According to the SER, there are 22 lecturers who teach the students on the *Business Information Systems* study programme. Among them there are 4 professors, 13 associate professors, and 5 lecturers; in addition there are 3 junior lecturers. This is sufficient both in terms of numbers and

in terms of expertise to provide a wide enough spectrum of competence for this stage of the 4 years degree programme.

The average age of teaching staff is 52 years, which is extremely high. There is very little turnover of staff, and that is not good from the point of view of introduction of new ideas and new practices, as new people could bring those. Moreover, any new staff tend to be recruited from the graduates of VGTU. Most of the teachers hold PhD degrees, but again their qualifications are often from VGTU. However, in the view of the Review Team the statutory legal requirements for running the study programme are met.

The teaching load of the staff members is usually between 300 and 400 hours a year. This is a lot, but it is not impossible to reconcile such a load with professional development, including some serious research.

The system that VGTU uses to measure and assess the research achievements of the staff employs misplaced incentives. To be more specific, the Review Team understood that an academic teacher of VGTU is required to publish, every 5 years, 3 papers in journals listed by Thomson Reuter's "Web of Science" product and having the so called "impact factor" (a notion trademarked by Thomson Reuter's). As a consequence, most of the staff members publish quite a lot, but mostly in low esteem venues including journals that Vilnius Gediminas Technical University itself co-publishes. The Review Team felt that such publications, regardless of their number, do not constitute an evidence of high quality research.

However, the publication lists of some of the teaching staff members contain also papers in journals (or in conference proceedings) which, although not always in the top league, are genuine venues of ideas exchange in their field. The examples include papers in "Advances in Engineering Software", "Journal of Grid Computing" and some physics journals.

The rather low research activity of the teaching staff members is compensated by their knowledge of the subjects taught and their teaching competences. In the view of the Review Team the competences of the teaching staff are adequate to ensure the achievement of the intended learning outcomes of this undergraduate studies curriculum. This conclusion was reached after the meeting and discussions with the teaching staff, and after the meeting with the student representatives who were quite enthusiastic about the quality of teaching.

During the staff discussions the Review Team were pleased to hear that the "Management" course specifically included material which made reference to and involved the activities of informatics companies; moreover, the lecturer recognised the need to change in the context of

students who had mobile devices; it was heartening to see that she had an excellent rapport with the students and was seeking to change her teaching to accommodate this.

#### ***4. Facilities and learning resources***

The material resources are very good indeed. The lecturing takes place in spacious lecture accommodation which is equipped with video projectors as well as interactive boards. There are six computer laboratories which house 153 personal computers and these are entirely sufficient to meet the needs of students on the programme. Students can get access to the software they need and the network provision is very good, and includes access to EDUROAM, a network for research and education throughout Europe. Parallel computing (in a cluster) is available and there is a cloud computing service. There are access points which allowed students with their own computers to access networks and the facilities. Generally, the premises for studying are very good both in their size and quality and students expressed no anxiety about any aspect of them. Special ramps had been installed to allow access by disabled students.

Since 2006 the Faculty of Fundamental Sciences in VGTU had been a member of the Microsoft Academic Alliance programme. This allows students access to operating systems, programming environments, design tools and even course materials. The Faculty is also a member of the IBM Academic Initiative Programme which again provides access to training materials and to software.

Some of the material resources are shared with other study programmes, which makes it a little bit more complicated to assess them. Students are very content with the library provision. The teaching materials are generally found to be adequate and accessible. However, the Review Team observed that subscriptions to the ACM (Association for Computing Machinery) and IEEE (Institute of Electrical and Electronics Engineers) electronic digital libraries had been cancelled because they were underused. These are among the most important digital libraries. In the view of the Review Team it was important that prestigious resources of international standing should be available to both staff and students and their use ought to be encouraged.

#### ***5. Study process and student assessment***

Some 23 full-time and 11 part-time students had entered the programme in 2011, the first year of the programme implementation. By third year some 7 students had dropped out, often because of the mathematics classes which were seen to be hard and whose relevance was not apparent to the students. In 2013, 15 full-time students and 17 part-time students entered the study programme.

The Review Team met only full-time students from the third year. It did not meet any part-time students (who may have been working when review was taking place) nor any students from the earlier years. This group of third-year students was impressive, articulate and imaginative and excellent at responding to questions. A very positive discussion highlighted the fact that the group had organised meetings both amongst themselves and with their part-time colleagues so that their representative on the Faculty level Study Programme Committee could represent their views at meetings.

Regarding the mathematics, they felt that it was being made hard for the sake of being hard. They recognised the value of mathematics but their preference was to understand concepts that were relevant to their studies and to understand the contribution they would make to informatics generally.

Generally the students enjoyed the study programme and were positive about their support for their lecturers. They did voice the view that some dated and irrelevant material could be removed from classes and their strong preference was for young lecturers who typically had active collaborations with business and could draw attention to interesting applications and developments; they also recognised the valuable contributions of some of the older lecturers.

They wished to hear about novel applications and wished to learn about the relevant new technologies. They could then make judgements about the directions of developments for the future. When they heard about interesting and new applications it fired their imagination and gave them ideas that they wished to pursue either on a project basis or in terms of their future careers.

Study plans for the programme had been revised to make them European Credit Transfer and Accumulation System (ECTS) compliant, and this has created greater opportunities for individual study plans and for welcoming students from other countries.

Social support is good and students interviewed during the evaluation visit expressed no concerns in this area. Sports, health and cultural activities are supported at institutional level. Special facilities are available for disabled students and scholarships are available for good performance and also for hardship cases.

## ***6. Programme management***

Programme management was seen to include: programme review, programme update and maintenance, internal quality assurance, and ensuring the effective involvement of social

partners. Responsibilities for programme management fell to the Departments and to the Faculty of Fundamental Sciences. The Review Team gained the impression that, although there were positive aspects to this study programme (e.g. the programme was meeting a real need, the students were very positive and were enjoying their studies and had a good sense of the excitement of the area), certain matters had been raised that merited attention. It was important to find time to address these. One mitigating factor was the fact that the programme was at a relatively early stage of its development. Nevertheless, for instance, the mathematics on offer seemed to have been largely responsible for students dropping out from the study programme and it was clear that existing students regarded it as difficult and often unhelpful to their studies.

There were also issues about the standing of the research being undertaken by many staff, about the lack of diversity of background amongst the teaching staff and the dearth of available literature that met the highest standards of international research and scholarship, which should be fixed in a long term perspective.

A major contributor to the institution's approach to addressing issues about quality improvement, was the university-wide information system "Medeinė", through which the students provide formal feedback. This is the input to the internal quality system. In the case of this study programme, none of the students believed that giving some feedback through the "Medeinė" system would lead to improvement, and, consequently, they did not give feedback through this system. The system is university-wide and over their visit the Review Team gained the impression that although students could input textual feedback to the "Medeinė" system, the staff believed that the system includes only numerical feedback. In short, there was a lack of effective formal system for informing management about feedback from students attending courses. For certain period informal feedback mechanisms did compensate for this shortcoming but the Review Team was of the view that the formal system needs to be fixed.

The social partners for this study programme were impressive and enthusiastic supporters of the programme. Their involvement tended to have been with other informatics programmes where they chaired Theses assessments committees; one of them sat on the Study Programme Committee of the Faculty. They felt that the advice they gave to the Faculty was of general benefit across all informatics study programmes.

These social partners were very positive in their support for students on the programme: there was a great need to have specialists who would be able to communicate easily with business regarding informatics matters. Their involvement with the institution tended to be through personal contacts. They stressed the fact that education could never keep up with the rate of

technological change and stressed the need for education to place an emphasis on foundational material and on training the minds of the students. Use of appropriate new technologies and the use of speakers from business could be important for motivating students. Foundational material was seen to include: programming, algorithms, data structures including dictionaries, and databases as well as the ability to analyse business needs and develop business intelligence.

The social partners drew attention to an important admissions issue. This related to the fact that students could gain funded study places on this programme only if they had passed the IT examination on leaving high school. They wished to see all such filters at the admission stage removed and they were keen to urge the institution to market courses of this kind vigorously.

### III. RECOMMENDATIONS

1. The mathematics content of the study programme should be reviewed to address student concerns about difficulty and relevance.
2. All syllabuses should be reviewed to ensure that the content of all classes is up-to-date.
3. The Faculty should be seen to respond positively to students' wishes to involve staff who can motivate them and engage them by providing insights into developments and trends in business computing.
4. The staff should be exposed to and engaged with the highest international standards of research and scholarship.
5. Improvements in the quality of scientific research should be encouraged and supported. Sabbaticals to internationally prestigious universities should be used to improve research. The international PhD, and other such possibilities, should be explored as a further means of involving younger colleagues in internationally excellent research.
6. The university should inaugurate awards for teaching excellence.
7. Literature of the highest international standards should be easily accessible to both staff and students, and management should take steps to ensure this is utilized effectively to the benefit of the study programme.
8. A regular forum for having a dialogue with all the students, both full-time and part-time and from all years of the study programme, should be inaugurated.
9. The university should put formal arrangements in place to ensure that feedback from students of all years, both full-time and part-time students, is heard and that views find their way to the relevant Faculty Study Programme Committee.
10. Input from social partners should be formalized so that the degree programme can benefit from their valuable input. The group of social partners should be enhanced by including specifically partners who appreciated the importance of high quality research and the scientific base needed to underpin the study programme.
11. The roles of different feedback systems should be clarified for the benefit of both staff and students. Such systems need to be instrumental in bringing about change and their effectiveness should be monitored.
12. The "Medeiné" system should be promoted so that truly anonymous feedback (both numerical and textual) will be given. As an important part of the promotion, students need to be convinced that the feedback is valuable and leads to improvement.
13. The programme marketing should be improved to attract larger numbers of applicants.

## IV. SUMMARY

The *Business Information Systems* Bachelor study programme is offered both on a full-time and on a part-time basis. The first cohort of students had entered the programme in the year 2011 and so only first year, second year and third year students were on the programme. The full-time version runs for 8 semesters, the part-time variant runs for 11 semesters. For the most part, the two groups are run separately with the part-time students tending to meet in the evenings and on Saturdays.

The aims of the study programme are reasonable for a programme of this kind. They cover the foundations of informatics and information systems development, and include complementary business courses that ensure that students are well placed to identify and articulate business needs.

The basis for the curriculum tended to be publications from ACM, the Association for Computing Machinery, and AIS, the Association for Information Systems. These organisations produced curriculum guidance on a regular basis and that was deemed to reflect the best practice. However, there was some local customizing of the recommendations, as there should be. The mathematics courses fell into this category and came in for criticism. The Review Team felt that this issue should be addressed and that syllabuses generally should be reviewed to ensure they were up-to-date and relevant.

There were staffing issues notably the age profile of the staff and the lack of appropriate diversity in their background, there was a need for appropriate incentives to encourage staff to become involved in leading research and scholarship of international standing, and it was important that they should have access to the top quality (again, as seen from an international perspective) literature and for them to make reference to this in their teaching. However, in the view of the Review Team, the staff was more than sufficient both in terms of number and in terms of expertise to run the study programme.

The Review Team met only full-time students from the third year of the study programme. Generally students were well organized; they held meetings with their part-time colleagues and so were able to reflect their wishes at Faculty Study Programme Committee meetings. Generally they were very happy with their education.

Social partners were very positive about this study programme. They saw it producing exactly the kind of graduate that would meet the needs of Lithuania. Generally the interaction that social partners had with the university was somewhat informal and based on personal contacts. Social

partners were also engaged in the Theses committees of other degree programmes, typically as chair of the assessment committee.

Programme management was seen to include the maintenance and development of the study programme, quality assurance activities including feedback and allied to this the positive involvement of social partners. The Review Team found this aspect of the provision to be a bit problematic – there were staffing issues; the formal feedback mechanisms that were fundamental to quality improvement were to some extent broken, though informal mechanisms for a certain period did compensate it. Generally the Head of Department carried great responsibility but on occasion the holder of that post had found it difficult to be effective and thus to create the necessary change. The Review Team felt that, as a matter of urgency, this situation had to alter. In informatics generally, change was inevitable and was taking place at such a rate that universities would find it hard to keep pace. But ongoing change at university level would be needed and both current and future Heads of Department needed to be supported.

## V. GENERAL ASSESSMENT

The study programme *Business Information Systems* (state code – 612I20003) at Vilnius Gediminas Technical University 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	4
2.	Curriculum design	3
3.	Staff	3
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
	<b>Total:</b>	<b>20</b>

\*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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**VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO PIRMOSIOS PAKOPOS  
STUDIJŲ PROGRAMOS VERSLO INFORMACINĖS SISTEMOS (VALSTYBINIS  
KODAS – 612I20003) 2013-12-12 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-550-4  
IŠRAŠAS**

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## V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus Gedimino technikos universiteto studijų programa *Verslo informacinės sistemos* (valstybinis kodas – 612I20003) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	4
2.	Programos sandara	3
3.	Personalas	3
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	3
	<b>Iš viso:</b>	<b>20</b>

\* 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

*Verslo informacinių sistemų* bakalauro studijų programa yra vykdoma tiek nuolatine, tiek iššęstine formomis. Studijų programa pradėta vykdyti 2011 m., taigi šiuo metu studijų programoje studijuoja tik pirmo, antro ir trečio kurso studentai. Nuolatinės studijos trunka 8 semestrus, iššęstinės – 11 semestrų. Didžioji dalis paskaitų abiejų studijų formų studentams vyksta atskirai. Iššęstinių studijų studentams paskaitos dažniausiai vyksta vakarais ir šeštadieniais.

Studijų programos tikslai, žvelgiant iš būtent tokio tipo studijų programos perspektyvos, yra pagrįsti. Jie apima informatikos pagrindus ir informacinių sistemų plėtrą, taip pat studijų programoje yra dėstomi papildomi su verslu susiję studijų dalykai, kurie užtikrina, kad studentai bus pasirengę identifikuoti ir pristatyti verslo reikmes.

Studijų programos pagrindas yra Kompiuterinės įrangos asociacijos (angl. *Association for Computing Machinery* (ACM)) ir Informacinių sistemų asociacijos (angl. *Association for*

*Information Systems* (AIS)) publikacijos. Šios organizacijos reguliariai rengia gaires studijų programoms, siekiant atspindėti gerąsias praktikas. Tačiau, kaip ir turėtų būti, šios rekomendacijos buvo šiek tiek modifikuotos, atsižvelgiant į vietos reikmes. Į šią kategoriją pakliuvo matematikos studijų dalykai, kurie tapo kritikuotiniais. Ekspertų grupės manymu, šią problemą reikia spręsti, taip pat reikia peržiūrėti visų studijų dalykų aprašymus, siekiant užtikrinti jų naujumą ir aktualumą.

Atkreiptinas dėmesys į personalo amžių ir pakankamos įvairovės išsilavinimo atžvilgiu stoką. Taip pat pažymėtina, kad reikėtų skatinti akademinį personalą įsitraukti į tarptautinius standartus atitinkančius mokslinius tyrimus bei užtikrinti prieigą prie aukščiausios kokybės mokslinės literatūros (žvelgiant iš tarptautinės perspektyvos). Dėstytojai turėtų remtis minėtąja medžiaga studijų procese. Vis dėlto ekspertų grupės manymu, personalo skaičius ir kompetencija yra pakankama studijų programos vykdymui.

Ekspertų grupė susitiko tik su studijų programos trečio kurso nuolatinė studijų studentais. Pažymėtina, kad studentai yra gerai organizuoti; jie rengia susitikimus su išstętinėse studijose studijuojančiais kolegomis, taip pat naudojasi galimybe išreikšti savo pageidavimus Fakulteto studijų programos komiteto posėdžiuose. Žvelgiant iš visumos perspektyvos, studentai yra labai patenkinti savo studijomis.

Socialiniai partneriai šios studijų programos atžvilgiu yra nusiteikę labai pozityviai. Jų nuomone, programa ruošiami būtent tokie absolventai, kokių reikia Lietuvos darbo rinkai. Socialinių partnerių ryšys su universitetu yra neformalus ir paremtas asmeniniais kontaktais. Socialiniai partneriai taip pat dalyvavo kitų studijų programų baigiamųjų darbų vertinimo komisijose, dažniausiai joms pirmininkaudami.

Programos vadybą sudaro studijų programos priežiūros ir tobulinimo procesai, studijų kokybės užtikrinimas, įskaitant grįžtamojo ryšio teikimą bei su tuo susijęs pozityviai vertintinas socialinių partnerių įsitraukimas. Ekspertų grupės manymu, būtent programos vadybos aspektas yra problemiškas – egzistuoja problemos su personalu; formalūs grįžtamojo ryšio teikimo mechanizmai, kurie turi lemiamos įtakos kokybės gerinimui, nėra visiškai efektyvūs, šiuo metu juos tam tikru mastu kompensuoja neformalus kokybės užtikrinimas. Reikėtų atkreipti dėmesį, kad katedros vedėjas neša didelę atsakomybę, tačiau tam tikrais atvejais katedros vedėjui yra sudėtinga dirbti efektyviai ir inicijuoti reikiamus pokyčius. Ekspertų grupės nuomone, šią situaciją reikėtų nedelsiant keisti. Pažymėtina, kad informatikos srityje pokyčiai yra neišvengiami ir vyksta tokiu greičiu, kad universitetams sunku su šiais pokyčiais suspėti. Vis

dėlto tęstiniai pokyčiai universiteto lygmeniu turėtų būti įgyvendinami palaikant tiek esamą, tiek būsimą katedros vedėjus.

### **III. REKOMENDACIJOS**

1. Reikėtų peržiūrėti matematikos studijų dalyko turinį, atsižvelgiant į studentų nuogaštavimus dėl dalyko sudėtingumo ir aktualumo.
2. Reikėtų peržiūrėti visus studijų dalykų aprašus, siekiant užtikrinti jų turinio naujumą.
3. Fakultetas turėtų teigiamai reaguoti į studentų pageidavimus įtraukti juos motyvuoti gebantį akademinį personalą, kuris taip pat dalintųsi įžvalgomis apie verslo kompiuterijos naujoves ir tendencijas.
4. Akademinis personalas turėtų dirbti pagal aukščiausius tarptautinius mokslinių tyrimų standartus.
5. Reikėtų skatinti ir remti mokslinių tyrimų kokybės gerinimą. Turėtų būti skatinamos mokslinių tyrimų vykdymui skirtos atostogos į tarptautinius prestižinius universitetus, siekiant tobulinti mokslinių tyrimų vykdymą. Tarptautinės doktorantūros studijos ir kitos panašaus pobūdžio galimybės turėtų būti panaudotos kaip tolesnės priemonės, siekiant pritraukti jaunesnius kolegas į tarptautinius standartus atitinkančius mokslinius tyrimus.
6. Universitetas turėtų pradėti teikti apdovanojimus už puikius pasiekimus dėstant.
7. Aukščiausius tarptautinius standartus atitinkanti mokslinė literatūra turėtų būti lengvai prieinama tiek dėstytojams, tiek studentams, o vadovybė turėtų imtis veiksmų užtikrinant, kad ja būtų efektyviai naudojamosi studijų programos labui.
8. Reikėtų vykdyti reguliarių keitimų nuomonėmis, kurio metu būtų diskutuojama apie studijų programą su visais nuolatinių ir išėstinių, taip pat visų studijų metų studentais.
9. Universitetas turėtų formalizuoti grįžtamojo ryšio teikimo sistemą, siekiant užtikrinti galimybę jį teikti visų studijų metų, abiejų studijų formų studentams, taip pat, kad grįžtamojo ryšio metu gauta informacija bus žinoma Fakulteto studijų programos komitetui.
10. Siekiant, kad socialinių partnerių vertingas indėlis būtų naudingas studijų programai, jis turėtų būti formalizuotas. Reikėtų padidinti socialinių partnerių skaičių, ypatingai įtraukiant tuos socialinius partnerius, kurie skiria daug dėmesio aukštos kokybės moksliniams tyrimams, o kartu ir moksliniam pagrindui, kuris yra reikalingas studijų programos vykdymui.

11. Skirtingos grįžtamojo ryšio teikimo sistemos turėtų būti aiškios tiek personalui, tiek studentams. Tokios sistemos turėtų veikti kaip priemonės pokyčiams vykdyti, o jų efektyvumą reikėtų stebėti.
12. Reikėtų skatinti naudojamąsi informacine sistema „Medeinė“, kad teikiamas grįžtamasis ryšys būtų tikrai anonimiškas (tiek skaitiniu, tiek tekstiniu atžvilgiu). Svarbi tokio skatinimo dalis – įtikinti studentus, kad jų teikiami atsiliepimai yra vertingi ir padeda studijų programą tobulinti.
13. Reikėtų tobulinti studijų programos rinkodarą, siekiant pritraukti daugiau studentų.

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

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<sup>1</sup> Žin., 2002, Nr.37-1341.