



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO  
*INŽINERINĖS INFORMATIKOS* STUDIJŲ  
PROGRAMOS (621I13002)  
VERTINIMO IŠVADOS

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**EVALUATION REPORT**  
**OF *ENGINEERING INFORMATICS* (621I13002)**  
**STUDY PROGRAMME**  
**at *VILNIUS GEDIMINAS TECHNICAL UNIVERSITY***

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Išvados parengtos anglų kalba  
Report language - English

Vilnius  
2013

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Inžinerinė informatika</i>
Valstybinis kodas	621I13002
Studijų sritis	Fizinių mokslų
Studijų kryptis	Informatika
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (2 m.)
Studijų programos apimtis kreditais	120 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos magistras
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2007 m. vasario 19 d. įsakymu Nr. ISAK-225

## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Engineering Informatics</i>
State code	621I13002
Study area	Physical Sciences
Study field	Informatics
Kind of the study programme	University Studies
Study cycle	First
Study mode (length in years)	Full-time (2 years)
Volume of the study programme in credits	120 ECTS
Degree and (or) professional qualifications awarded	Master of Informatics
Date of registration of the study programme	19 of February 2007, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. ISAK-225

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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) second-cycle study programme *Engineering Informatics* 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 Masters Degree 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 (SER, for short) prepared in 2013, its annexes and the site visit of the Review Team to VGTU on October 10<sup>th</sup>, 2013. The visit included meetings with different groups: the administrative staff of the Faculty of Fundamental Sciences, staff responsible for preparing the self-evaluation documents, teaching staff, all students currently on the study programme, graduates and social partners associated with the study programme. The Review Team evaluated various support services (classrooms, laboratories, library, computer facilities), examined a sample of students' final work including final Theses and the assessment reports of these Theses, and various other materials. After the Review Team discussions and the additional preparation of conclusions and remarks, preliminary general conclusions of the visit were presented to staff. 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 study 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.*

The *Engineering Informatics* Masters degree study programme is a two-year, 4 semesters programme offered by the Department of Information Systems in the Faculty of Fundamental Sciences. It resides within the Informatics field of study. Only full-time students are admitted. The SER provided very helpful narrative on each of: the programme aims and the intended learning outcomes; the curriculum design; the teaching staff; the material resources; the study process and the assessment; and, programme management. Within the fields of Informatics and Informatics Engineering, the university offers some 8 different Masters degree study programmes.

In carrying out the review, the Panel was charged with addressing a number of different degree programmes in computing within Vilnius Gediminas Technical 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*

The *Engineering Informatics* Masters study programme began over 20 years ago and had evolved over time. It claims to be unique in that it offers a ‘wider academic-scientific knowledge and abilities’ compared with other such study programmes at VGTU. This is seen as good for employment. But earlier specialisations in Physics and Computer Research Computerization and in Applied Informatics were cancelled around 2009 leaving only Information Systems. This cancellation of specialisms had its origins in a previous self-evaluation of *Engineering Informatics* carried out in 2006 and involving a team of international experts.

At discussion meetings, the Review Team sought to identify the precise nature and character of the study programme, i.e. was this Masters a preparation for research, was it a professional Masters or was its purpose advanced study? It was described as an amalgam of all these possibilities.

The SER document revealed that the aims and the intended learning outcomes for the study programme had been driven by current and future needs of the labour market (and local industry had supplied perspectives on this); in addition traditional as well as new career opportunities involving new technologies were an important factor, also new developments in information systems.

From the SER, the study programme aims included: training highly competent specialists in informatics by deepening and widening their knowledge; providing extensive knowledge about particular topic areas that included information technologies, information security and modern systems development; fostering innovation and creativity and advanced skills that could be applied in practice. There was a comprehensive set of related intended learning outcomes which covered knowledge and its application, the ability to carry out research, acquiring special as well as social and personal abilities but these would typically be difficult to assess.

From discussion with staff, students, and alumni it became clear that the main focus of the Masters study programme was indeed information systems. Essentially, this was the one remaining specialism within the broader field of engineering informatics. Yet the aims had projected a broad view of the study programme whose purpose was to produce specialists in information systems. The intended learning outcomes were similarly broad and for instance, included reference to chaos theory and catastrophe theory. Their relevance to the programme

was quite unclear. In short, the aims and the intended learning outcomes exhibited confusion over the original general nature of the study programme and the current specific focus on information systems.

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

## **2. Curriculum design**

The curriculum had been influenced by curricular recommendations from ACM (the Association for Computing Machinery, an important international society) as well as by input from social partners and by a desire to provide students with a sound scientific background.

There are 120 ECTS credits associated with the study programme and these are spread evenly over the four semesters. There are compulsory modules (61 ECTS credits) and optional modules (20 ECTS credits) in each of the first three semesters; the compulsory modules are to ensure that students will be acquainted with the knowledge, understanding and abilities crucial to the field of informatics engineering; the optional modules provide students with choice but build on the compulsory classes. In semester one, modules on the theory of computation and on advanced information systems are compulsory, with classes on data engineering and on knowledge engineering and knowledge management optional; in semester two, classes on information systems engineering, on decision support strategies, and on artificial intelligence and its application to information systems are compulsory; in semester three classes in information security methods, on high performance computer systems and on information systems project and quality management are compulsory with advanced databases and agent technologies being optional. The final semester is devoted to the final Thesis (39 ECTS), and this is supported by earlier classes on research methods. The curriculum satisfies the legal requirements for Masters study programmes.

The SER document revealed that the overall contact teaching time was some 600 hrs, and this covered lectures, as well as time in laboratories and in practical classes. Throughout the course there is seen to be a gradual transition from classroom-based activity to research-based work culminating in the final semester being devoted to the Thesis.

In the curriculum, many of the course modules are suitable for an information systems Masters study programme, covering central topics such as information systems engineering, quality and project management, IT security methods, and data management. The programme seems to have

a special emphasis in artificial intelligence and decision support. However, there are course modules that look as if they are left from the time when there were more specialisations, not having an appropriate position with the information systems area. The most extreme example is the course module Theory of Computation, which deals with topics such as Turing machines, and theoretical models of computation. These topic areas belong to theoretical computer science, and are normally found in a computer science curriculum, not in an information systems one. Even though Theory of Computation module contains material on how formal languages can be utilized in information systems development, this kind of material easily makes a programme lose its focus and gives a questionable impression about the curriculum design. High Performance Computer Systems seems to be a course module with a technical orientation, also not fitting well in this programme.

Students also did offer some slight additional concerns about the updated-ness and the level of challenge of some of the remaining courses, e.g. the courses covering databases. They also expressed the wish to have a wider choice of optional courses; those on offer were sometimes seen to be too similar, e.g. Data Engineering and Knowledge Engineering and Knowledge Management.

However despite of review panel's provided guidelines for improvement, it is necessary to mention, that the students did enjoy their studies, were generally content with the classes and enjoyed the interaction that a small group of highly motivated students would have as well as their ability to interact closely with the staff members.

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

According to the SER, there are 10 lecturers who teach the students of the Masters *Engineering Informatics* study programme. There are 3 professors, 2 associate professors and 5 lecturers among the staff. The average age of the staff is 47 years, which is high. This number of staff is just enough to sustain and support such a programme. The main teaching load for this study programme falls on the shoulders of those with scientific degrees and so of the Professors and the Associate Professors. Most of them have at least 10 years of lecturing experience.

There is very little turnover, of staff, which reduces opportunities for new people to insert new ideas. The Review Team observed that staff tend to be recruited from the graduates of VGTU. Several of them had taken part in academic exchanges with institutions in other countries, e.g. via Erasmus arrangements, but evidence of fruitful collaborative activity was sparse.

The teaching load of the staff members for the year 2012-13 was 790.5 hrs. This is high, but it is not impossible to reconcile such a load with professional development, including some serious research, important for teaching on a Masters study programme.

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 a small number of teaching staff members do contain papers in journals (or in conference proceedings) which, although not in the top league, are genuine venues for the exchange of ideas in their field. Examples include papers in "Advances in Databases and Information", "The European Journal of Operational Research" and some physics journals.

The Review Team have good reasons to believe that the teaching staff members have satisfactory knowledge of the subjects taught and satisfactory teaching competences; this view is based on, among others, the discussions with the staff and the opinions of the students. But for a graduate degree curriculum this can not be seen as sufficient to complement the weaknesses in research competences.

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

Students were quite content with the material resources for the study programme. Lecturing takes place in spacious accommodation. There are ample computing laboratories and facilities and the students have no problems with access to the software they need. The network facilities were good and included access to EDUROAM, a facility used by researchers and educators throughout Europe. There were also additional access points so that students with their own personal computers could access facilities and resources.

Both staff and students could have access to parallel computing facilities in the form of a cluster of computers, and there was a cloud computing service. Since 2006 the Faculty had been a member of the Microsoft MSDN Academic Alliance and so there was access to operating systems, programming environments, design tools, and there were licences for MS SQL and MS Dynamics. In addition the Faculty operated closely with IBM and in this way gained access to

training materials and software such as WebSphere, DB2, Informix, Lotus, Rational, Tivoli and SmallTalk.

Students were also content with the library provision: there were books, journals, etc. as well as study places both in the main university library but also within the premises of the Faculty. The facilities include access to certain e-books.

The Review Team observed that subscriptions to highly respected international publications (including digital libraries) had been cancelled due to lack of use. This was of concern. In reviewing student work and in particular final theses, references to high quality publications were sparse. The Review Team expressed the view that access to highly respected international publications should be easy and should be encouraged.

It was also observed that many of the students undertook their final thesis activity in conjunction with social partners. There was no evidence of guidelines on the roles and responsibilities of the social partners in these arrangements.

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

In discussion with the staff, it was noted that the typical profile of incoming students was that around 40% would come from the *Informatics Engineering* Bachelors study programme, and some 60% would come from the home university. The SER had indicated that applicants to the study programme could come from the fields of informatics, informatics engineering, mathematics, physics, electronics or telecommunication systems engineering. For admission to the study programme, performance on the Bachelors programme was an important differentiator in selecting from initial applicants. From the discussions with staff it emerged that bridging courses could be tailored for incoming students whose background was deficient in some sense. The Review Team met students from, for instance, an electronics background; no bridging courses had been required.

The numbers of students admitted to the study programme had fallen in recent years. In 2008, for instance, some 62 students had been admitted to the programme, in 2009 some 22 had been admitted and of these 18 had graduated. Only 9 students had been admitted in 2011. The decline in admissions was attributed to changes in the funding arrangements for students and to decreases in the specialisations available in the programme. But of the 9 state-funded students admitted in 2011 only 3 had completed the study programme, and of the 7 admitted in 2012 only 4 remained at the time of the review and all of them had graduated from VGTU. These recent

student losses were attributed to special personal reasons by their former colleagues; the Review Team did not meet any of the students who had dropped out.

The students that the Review Team met were able to talk directly to staff members to have problems resolved and to provide feedback. The students were very comfortable with this situation and it provided a level of quality control that seemed very effective, typically involved little delay and typically provided students with an immediate response. However the formal quality mechanisms of the university relied on the students filling in questionnaires that would then be analysed and inform those in senior positions. This formal system was not working since the students were not strongly motivated to engage with this more formal system.

The students who were present at the review meeting and the alumni had expressed considerable satisfaction with the study programme. The programme was seen to be meeting a real need for industry in Lithuania. Social partners expressed the wish that greater marketing of the study programme should take place. As the study programme evolved they would wish to see even greater attention to practical activity, and continued attention to the acquisition of the skills needed in industry (e.g. team working), to reviewing new technologies and addressing them as appropriate, and to the acquisition of appropriate internationally recognised certification / licensing / qualifications.

Social partners were able to contribute to the development of the study programme. Often this was through personal contacts and joint project activity. They would often offer topics that would form the basis of a final Thesis, and indeed many students did undertake their Thesis in employment. The social partners were often also engaged in the formal process of the assessment of final Theses, e.g. as chair of the assessment committee which would typically be composed of 5 persons. At those meetings students would give a presentation and would have to defend their work. Typically two assessors, appointed by the Head of the Department, would assess the Thesis and provide written reports. The academic advisor to the student would also supply a written report. The amount of text and deep analysis in these reports was variable but generally the performance of the students was very highly rated.

## ***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 and alumni. Responsibilities for programme management fell to the Department and to the Faculty level Study Programme Committee. The Review Team gained the impression that

programme management was not working effectively enough.

The numbers of students on this study programme had fallen to a level that seriously threatened its viability; there were currently a total of 4 in the two years of the study programme. No students had been admitted in the year 2013 although there had been a promise at Faculty level of funded places for students who might enter in 2014.

The focus of the study programme had been identified as information systems but the aims and intended learning outcomes, as well as the curriculum on offer barely met the requirements of such a study programme.

Informal feedback mechanisms were in place and working very effectively; these took the form of discussion between students and their teachers. But the institutional quality feedback mechanism that made use of the “Medeinė” system were broken. These are student surveys which are analysed with results being passed to the academic divisions with responsibility for quality. But students on this study programme saw no reason to contribute to these surveys; the informal mechanisms better suited their needs since it supplied immediate feedback.

The social partners associated with the study programme were a strength. They were eager to input their perspectives about the study programme and did so, mainly through their personal contacts rather than through any formal mechanisms. They spoke eloquently about the urgent need for greater numbers of these graduates whom they saw as specialists. They urged that far greater efforts should be invested in the marketing of this study programme which they saw meeting a real and important need.

### **III. RECOMMENDATIONS**

1. Review the study programme to align it better with a set of sharply defined aims and intended learning outcomes that would provide an easy to understand view of the focus of the study programme.
2. Review the selection of courses to ensure that they fit with the focus of the study programme (currently information systems), provide students with meaningful and attractive free elective choices and overall provide students with a valuable high quality Masters experience.
3. Review all courses syllabuses to ensure that their content is up-to-date and of appropriate challenge for a high quality Masters programme.
4. 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.
5. Improvements in the quality of scientific research should be encouraged and supported.
6. 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.
7. Engage with students who have dropped out to determine their reasons for dropping out and use the information so derived to improve the study programme.
8. Management should provide incentives to encourage staff to engage in research and scholarship of the highest quality by publishing in internationally respected journals and conferences.
9. Management should, on the one hand, take urgent action to support and breath new life into this study programme; on the other hand, they need to monitor progress of its development and uptake carefully so as to be convinced that it remains viable.
10. The quality feedback mechanisms should be reviewed to ensure that students understand the important role that these feedback mechanisms play, and management is fully aware of how the development of the study programme is progressing.
11. The study programme should be marketed vigorously to ensure that there is a reasonably sized body of interested and motivated students who create a study environment of interest and challenge.

## **IV. SUMMARY**

*Informatics Engineering* Masters study programme had originally been designed to provide a sound scientific education across a range of specialisms. Over time the study programme had been altered so that at the time of the review there remained one specialism in the area of information systems. The aims of the study programme and the intended learning outcomes were better for the original concept than they were for a Masters with a focus on information systems.

Now the compulsory courses were not an ideal fit for the specialism. The Review Team took the view that there were course modules that look as if they are left from the time when there were more specialisations, not having an appropriate position with the information systems area.

The staffing provision was deemed adequate for the study programme. However there needed to be incentives to motivate staff into publishing in high quality internationally respected journals. Currently the outlets being used for their publications were of low esteem internationally.

The numbers of students on the study programme had dwindled to a level that called into question the viability of the programme. There was a promise from the Faculty of funded places for entry in 2014. The students on the study programme and the alumni were very positive about the programme and the education it provided.

The students felt that the resources for the study programme were good. This was approved during the site visit. However, the Review Team noted that journals and digital libraries of international repute had been cancelled due to the lack of use. References to the high quality literature in final Theses were sparse.

One great strength of the study programme was the commitment and the enthusiasm of the social partners. They spoke out strongly for the need for this study programme. They saw the graduates as being very valuable to Lithuania and they wished to see the programme being marketed vigorously to attract more students.

Many of the issues associated with this study programme presented serious challenges for programme management. Moreover, the formal feedback mechanisms were proving ineffective, though the informal feedback mechanisms – communication between the students and their teachers – were working well. But fundamental questions would need to be asked about the ongoing viability of this study programme.

## V. GENERAL ASSESSMENT

The study programme *Engineering Informatics* (state code – 621I13002) at Vilnius Gediminas Technical University is given **positive** evaluation.

*Study programme assessment in points by evaluation areas.*

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	2
2.	Curriculum design	2
3.	Staff	2
4.	Material resources	3
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	2
	<b>Total:</b>	<b>14</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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Asta Urmanavičienė

Tautvydas Jančis

**VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO ANTROSIOS PAKOPOS  
STUDIJŲ PROGRAMOS *INŽINERINĖ INFORMATIKA* (VALSTYBINIS KODAS –  
621I13002) 2013-12-12 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-550-3 IŠRAŠAS**

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## V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus Gedimino technikos universiteto studijų programa *Inžinerinė informatika* (valstybinis kodas – 621I13002) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	2
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	3
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	2
	<b>Iš viso:</b>	<b>14</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

Pradėjus vykdyti *Inžinerinės informatikos* magistrantūros studijų programą buvo siekiama suteikti kokybišką išsilavinimą keliose srityse / specializacijose. Laikui bėgant studijų programa kito ir išorinio vertinimo metu buvo likusi tik viena specializacija – informacinių sistemų. Tačiau studijų programos tikslai ir numatomi studijų rezultatai labiau tinka ne magistro studijų programai, kurios studijų objektas yra informacinės sistemos, o ankstesnės studijų programos koncepcijos atžvilgiu.

Šiuo metu privalomi studijų dalykai ne visiškai atitinka specializaciją. Ekspertų grupės nuomone, susidaro įspūdis, kad tam tikri studijų dalykai yra likę iš ankstesnių laikų, kai studijų programoje buvo keletas specializacijų. Minėtieji studijų dalykai nėra tinkamai susieti su informacinėmis sistemomis.

Akademinis personalas, žvelgiant iš sudėties perspektyvos, yra tinkamas. Vis dėlto reikėtų skatinti personalą publikuoti aukščiausius standartus atitinkančiuose tarptautiniuose moksliniuose žurnaluose. Šiuo metu jų publikacijos skelbiamos leidiniuose, kurie nėra pelnę tarptautinio pripažinimo (kokybės atžvilgiu).

Smarkiai sumažėjęs studentų skaičius kelia grėsmę tolesniam programos vykdymui. Fakulteto vadovybė pažadėjo padidinti valstybės finansuojamų vietų skaičių šiai studijų programai 2014 m. Atkreiptinas dėmesys, kad studijų programos studentai ir absolventai yra labai patenkinti studijų programa ir ja suteikiamu išsilavinimu.

Studentų nuomone, studijų programos materialieji ištekliai apibūdintini kaip labai geri. Tuo ekspertų grupė įsitikino vizito metu. Vis dėlto ekspertų grupė pastebėjo, kad prestižinės tarptautinių žurnalų ir skaitmeninių bibliotekų prenumeratos buvo atsisakyta dėl naudojimosi ja stokos. Atitinkamai studentų magistro baigiamuosiuose darbuose pastebimas nuorodų į aukštos kokybės mokslinę literatūrą stygius.

Pagirtina, kad socialiniai partneriai studijų programą vertina pozityviai. Jie pabrėžė studijų programos reikalingumą – inžinerinės informatikos specialistai labai vertinami Lietuvos darbo rinkoje, taip pat buvo atkreiptas dėmesys į studijų programos populiarinimo poreikį, siekiant pritraukti daugiau studentų.

Daugelis su studijų programa susijusių probleminių klausimų galėtų būti sietini su studijų programos vadyba. Formali grįžtamojo ryšio teikimo sistema nėra efektyvi, tačiau neformali grįžtamojo ryšio sistema, susijusi su studentų ir dėstytojų tarpusavio komunikacija, veikia gerai. Vis dėlto pačiu svarbiausiu išlieka klausimas dėl studijų programos tolesnio likimo sparčiai mažėjant studentų skaičiui.

### **III. REKOMENDACIJOS**

1. Reikėtų peržiūrėti studijų programą, siekiant užtikrinti jos atitikimą aiškiai apibrėžtiems tikslams ir numatomiems studijų rezultatams, sudarant galimybę nesunkiai nustatyti studijų objektą.
2. Reikėtų peržiūrėti studijų dalykus, siekiant užtikrinti jų atitikimą studijų objektui (būtent informacinės sistemos), taip pat suteikti studentams galimybę laisvai rinktis jų interesus atitinkančius, populiarius studijų dalykus bei apskritai suteikti studentams aukštos kokybės vertingos patirties antrosios pakopos studijose.

3. Peržiūrėti visų studijų dalykų aprašus ir juos atnaujinti, siekiant užtikrinti, kad jų turinys yra modernus bei atitinka pakankamai aukštą (kokybės atžvilgiu) antrosios studijų pakopos lygmenį.
4. Siekiant pagerinti situaciją mokslo tiriamosios veiklos atžvilgiu, reikėtų organizuoti akademinio personalo mokslo tiriamajai veiklai skirtas atostogas, kurios būtų praleidžiamos pripažintuose tarptautiniuose universitetuose. Tarptautinės doktorantūros studijos ir panašios galimybės turėtų būti panaudojamos kaip priemonės siekiant pritraukti jaunesnius kolegas į tarptautinius standartus atitinkančią mokslo tiriamąją veiklą.
5. Reikėtų skatinti ir remti mokslo tiriamosios veiklos kokybės gerinimą.
6. Dėstytojai ir studentai turėtų turėti galimybę naudotis aukščiausius standartus atitinkančia tarptautine mokslinė literatūra. Studijų programos vadovai turėtų pasirūpinti, kad minėtąja galimybe būtų naudojamosi efektyviai ir tai turi tiesioginės įtakos studijų programai.
7. Palaikyti ryšį su studentais, kurie nutraukė studijas, siekiant išsiaiškinti minėtojo reiškinio priežastis bei pasinaudoti gauta informacija studijų programos tobulinimui.
8. Vadovai turėtų skatinti akademinį personalą įsitraukti į aukščiausius standartus atitinkančią mokslo tiriamąją veiklą – publikuoti ir dalyvauti mokslinėse konferencijose.
9. Viena vertus, vadovai turėtų imtis skubių priemonių, siekiant studijų programos atnaujinimo. Kita vertus, reikėtų stebėti studijų programos vykdymo progresą, siekiant užtikrinti, kad studijų programa vis dar gali būti perspektyvi.
10. Reikėtų peržiūrėti grįžtamojo ryšio teikimo sistemą, siekiant užtikrinti, kad studentai suvokia kokybės užtikrinimo mechanizmų svarbą, o studijų programos vadovus pasiekia informacija apie studijų programos tobulinimą.
11. Studijų programa turėtų būti labiau populiarinama, pasitelkiant motyvuotus ir suinteresuotus studentus, kurie kurtų palankią aplinką studijoms, nestokojančią naujų idėjų ir iššūkių.

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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, reikalavimai.

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<sup>1</sup> Žin., 2002, Nr.37-1341.