



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

VILNIAUS UNIVERSITETO
INFORMACINIŲ TECHNOLOGIJŲ STUDIJŲ
PROGRAMOS (612I10003)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF INFORMATION TECHNOLOGIES (612I10003)
STUDY PROGRAMME
AT VILNIUS UNIVERSITY

Grupės vadovas:
Team leader:

Prof. Roland N. Ibbett

Grupės nariai:
Team members:

Prof. Philippos Pouyioutas

Prof. Jürgen Dorn

Aleksej Kovaliov

Justinas Petravičius

Išvados parengtos anglų kalba
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Informacinės technologijos</i>
Valstybinis kodas	612I10003
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Informatika
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3,5 m.)
Studijų programos apimtis kreditais	210 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos bakalauras
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 2008 m. balandžio 24 d. įsakymu Nr. ISAK-1175

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Information Technologies</i>
State code	612I10003
Study area	Physical Sciences
Study field	Informatics
Kind of the study programme	University Studies
Study cycle	First
Study mode (length in years)	Full-time (3,5 years)
Volume of the study programme in credits	210 ECTS
Degree and (or) professional qualifications awarded	Bachelor of Informatics
Date of registration of the study programme	24 of April 2008, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. ISAK-1175

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I. INTRODUCTION

The procedures of the external evaluation of the Vilnius University (hereafter, VU) *Information Technologies* bachelor study programme were initiated by the Centre for Quality Assessment in Higher Education of Lithuania nominating the external evaluation peer group formed by the head, Professor Roland Ibbett (Emeritus Professor of Computer Science, University of Edinburgh, Scotland and Chair of the Accreditation Committee of the European Quality Assurance Network for Informatics Education (EQANIE)), Professor Jürgen Dorn (Vienna University of Technology, Vienna, Austria), Professor Philippos Pouyioutas (University of Nicosia, Cyprus), Aleksej Kovaliov (Head of the Centre of Software Development, TEO LT, TellaSonera Group, Lithuania), employer representative and Justinas Petravičius (Vilnius Gediminas Technical University, Lithuania), student representative. 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. Methodology for Evaluation of Higher Education Study Programmes;
4. General Requirements of the First Degree and Integrated Study Programmes.

The basis for the evaluation of the study programme is the Self-Evaluation Report (hereafter, SER), prepared in 2013, its annexes and the site visit of the expert group to VU on 24 October 2013. The visit incorporated all required meetings with different groups: the administrative staff of the Faculty of Mathematics and Informatics, staff in the Department of Computer Science II responsible for preparing the self-evaluation documents, teaching staff, students of all years of study, graduates and employers. The expert group evaluated various support services (classrooms, laboratories, library, computer facilities), examined students' final works, and various other materials. After the expert group discussions and additional preparations of conclusions and remarks, introductory general conclusions of the visit were presented. After the visit, the group met to discuss and agree the content of the report, which represents the expert team consensual views.

Vilnius University, founded in 1579, is one of the oldest universities in Eastern and Central Europe. For a long time it was the only school of higher education in Lithuania and has always played a significant role in the cultural life of Lithuania and neighbouring countries. The University still preserves its cultural and scientific traditions. It is organised as 12 faculties

together with a number of separate institutes and study centres. The Faculty of Mathematics and Informatics, one of the largest in the University, can trace its history back to 1579 but was established in its present form in 1999. It has 10 departments, among them Computer Science I, Computer Science II, Mathematical Computer Science and Software Engineering. These departments differ in terms of their research interests and the study programmes they offer (respectively *Informatics*, *Information Technologies*, *Software Engineering* and *Bioinformatics*).

The *Information Technologies* bachelor study programme is delivered by the Computer Science II Department which currently has facilities on two separate sites, one in Naugardukas Street and the other in Didlaukis Street. The expert group visited both sites. The SER of the programme being evaluated here covers the period 2009-2013. The programme was restructured in terms of the ECTS credit system in 2011. It aims to produce graduates who will pursue careers involving practical professional activities in the field of information technology, *i.e.* with the knowledge and abilities that are necessary to build, manage and support information technology systems.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The main goal of the study programme is to train professionals in the field of information technology. The aims and the programme in general are influenced by the ACM/IEEE Computing curriculum 2005 and by comparison with other studies. The study programme structure was developed in collaboration with social partners during a Tuning project. These investigations led to a study programme in which the intended learning outcomes for graduates are less theoretical and more practical/technical competences.

The aims of the study programme shall be achieved by seven generic and nine subject specific intended learning outcomes. The description of the intended learning outcomes is clear and straightforward and the intended learning outcomes are defined according to the Dublin Descriptors (e.g. the intended learning outcome “Ability to use existing theoretical models, terminology, recommended programming, modelling, and system administration principles and tools in applied sciences and everyday life” is achieved by seven courses: ITPPA, ITKA, IROP, ITRDB, ITOS, ITBU and ITPM, the professional practice and the final thesis). The intended learning outcomes of the study programme are in accordance to European Qualifications Framework sixth level. In a table (SER Annex I) an assignment of study subjects to those sixteen competences is transparently given.

The study programme’s aims, intended learning outcomes are published on the Web, but not accessible in English language. The name of the study programme is compatible with the aims and content of the study.

2. Curriculum design

The programme is designed to run full-time over 7 semesters. It involves 210 ECTS credits as required by Lithuanian law, thus more than satisfying the Bologna minimum requirement of 180 ECTS credits. It is quite difficult to ascertain the precise structure of the programme from the SER, since there appear to be a number of variants. However, these were clearly explained to the panel during the visit. All students take compulsory courses accounting for 175 ECTS credits and 3x5 ECTS credits of general higher education (hereafter, BUS) courses, one taken in each of the 1st, 3rd or 5th, and 6th semesters. BUS courses are listed on the University website, but only in Lithuanian. The current BUS courses are not popular with the students and the panel

recommends that the Faculty negotiate with other faculties with a view to introducing BUS courses that are more relevant and appealing to informatics students, *e.g.* an overview of legal and ethical frameworks, an introduction to computational science, entrepreneurialism, *etc.*

The remaining 20 ECTS credits are for optional courses. These are listed in 3 groups, A, B and C, worth 3x5, 5x5 and 4x5 ECTS credits respectively. There is also an optional 5 ECTS credits Semester Project. Students choose one of the A, B, C sets of options. There is also an additional variant of the programme – the "innovative study plan" in which two mathematics and one BUS course are substituted by a Problem-based Project. This illustrates the very positive attitude of the staff towards implementing alternative study methods. Indeed the SER demonstrates that there has been considerable updating of the programme in recent years, in order to keep up with changes in the IT world.

The technical content of the study programme is in general to be highly commended for being up-to-date and relevant. For example, it is good to see that risk and change management are mentioned. Students undertake practical work in many courses and it is good to see that several courses involve group projects; the Department should consider introducing group work earlier in the curriculum. Panel members have a number of recommendations to make regarding the inclusion of topics that are becoming increasingly important, but these are meant as helpful suggestions rather than major criticisms. The programme satisfies all the relevant legal criteria.

Parallel computing is rapidly becoming mainstream with the advent of multi-core processor chips, and although the panel was told during the visit that parallel computing was part of the Masters programme, at least some mention should be made in the Bachelor programme as well. The “Advanced Information Technologies” course would be improved by adding really advanced market demanded technologies (mobile, .net, java, design pattern, *etc.*). The “Business Basics” course would benefit from the inclusion of entrepreneurship oriented lectures, to encourage students to consider starting their own businesses (*e.g.* business plans, strategic marketing, product management). The “Project Management” course should include at least an introduction to Agile project management. There are several topics that could usefully be presented by social partners (software development practices, team/department organisation, system designs, *etc.*).

The maths courses are supportive of IT and the use of the English courses to cover a wide range of topics at an introductory level is commendable. A few courses have titles that are slightly misleading: “Data Structures” would typically be called “Algorithms and Data Structures”

elsewhere; “Advanced Information Technologies” could more appropriately be called “Web Programming”; “Electronic Data Networks and Data Visualisation” would be better just as “Data Visualisation”.

An area considered important by many international subject-specific accreditation agencies (e.g. EQANIE) is “consideration of the economic, social, ethical and legal conditions expected in informatics practice”. Many of these issues are included in the *Information Technologies* degree programme but in some cases it is hard to discern exactly what is actually involved (e.g. ethical thinking in ITAN1). Legislative requirements covering data protection are included in ITRDB and copyright and licensing issues are mentioned in ITTPA, but there are some omissions, e.g. there appears to be no mention of professional codes of conduct, e.g. the IEEE and IFIP codes are used fairly widely internationally, and there is little or no supporting material in the reading list. Numerous texts are available in English covering the whole gamut of legal, ethical, social and professional issues, at least some of which would be relevant in Lithuania.

3. Staff

According to the SER, the study programme is delivered by 25 teaching staff from the Department of Computer Science II, 6 from other departments in the Faculty and 2 from other faculties. In addition, students undertake 3 BUS courses that are usually taught by lecturers in humanities and social sciences. Two members of the Department have joint appointments with other faculties/institutes in the University and two are visitors from industry. The current student/staff ratio of 4.6:1 is very generous by international standards.

The documentation (SER) does not indicate which members of staff belong to which department and the CVs of many of the staff do not specify to which department in the Faculty they belong. The staff listing on the website appears to be long out of date, likewise the publications webpage, which only covers the period 1998-2004, and with many of the links not working, and no research seminars being listed since 2001. The Department is strongly recommended to keep its website up to date. This is particularly important if the Faculty is to achieve its strategic goal of internationalisation.

The SER reports that among the lecturers delivering the programme 2 are professors, 9 are docents, 21 (9 with PhDs) are lecturers and one has a BSc. Thus 20 of the 33 staff (60.6%) have a scientific (doctoral) degree and among the 39 lecture-based subjects (as listed in Annex II of the SER), 26 are taught by lecturers with a scientific degree (67%), thus well exceeding the statutory

minimum of 50%. Among the 27 compulsory courses, 19 are taught by lecturers with a scientific degree (70%). There are slight disagreements between the numbers in the SER and those derived from the annexes but clearly the qualifications of the teaching staff are more than adequate to ensure that good students will achieve the intended learning outcomes. The Department makes good use of staff research interests and professional and prior experience to ensure that students are taught by experts in the field. During the visit staff indicated that their research interests feed into later year teaching in the study programme.

The age profile of the teaching staff is very healthy and the Department makes good use of younger staff to bring in modern computing topics. There is some rotation of subjects among the staff, which is also healthy. During the visit the panel was assured that staff who are consistently rated badly by students do not have their contracts renewed.

Most staff are active in research and have good publication records in areas directly related to the *Information Technologies* degree programme. There is a good mix of publications in journals, books and conferences, and of participation in refereeing. As in many other computing departments that have their origins in mathematics, however, younger staff whose education and experience is in computing tend to demonstrate higher publication rates. This will change the overall departmental profile over time. Many staff take advantage of professional development opportunities, both pedagogic and scientific/technical. Many staff also take part in collaborative international projects. The Department encourages staff to undertake international exchanges, though is aware of the practical and resource limitations involved in longer term exchanges. During the visit staff indicated that there were adequate resources to fund travel to conferences.

4. Facilities and learning resources

Overall, evaluation of the facilities and learning resources is that they are good due to distinctive positive features in terms of the learning equipment and teaching materials, although in some ways the facilities meet only minimum requirements and need improvement. The two sites are located far away one from another, the older site on Naugardukas Street has no direct access by public transport and also has very limited capacity for the parking of private vehicles. Most of the issues related to distributed offices are resolved by proper schedule arrangements, although access to the library and computer lab classrooms may be naturally limited by travel inconveniences. Neither site is equipped for access by people with disabilities, there are no elevators nor special-purpose stairways and distributed locations make an additional challenge too. The classrooms are generally adequate by size and quality, although the power sockets for

personal computer equipment are insufficient to be used during lectures and breaks. There is a continuous improvement of this area by arranging special tables with power sockets and lab-style rooms, equipped for the students with personal devices. The panel recommends that the department upgrades the facilities to make them suitable and accessible for people with disabilities. It should also consider moving the relevant library resources to the new site, where the most lectures happen.

Computer classrooms are under continuous upgrades and improvements, although at this stage most of the computer classrooms are not fully utilized due to the fact that renovated classrooms with newer equipment are not freely accessible for the students and older labs are not convenient, are inadequately equipped and located remotely. The panel recommends that the Department continues reconstruction of the computer classrooms and rearrangement of activities, ensures that the modern labs are utilized and available for the students' personal and group work and that sufficient power sockets and wireless access points are installed for students' personal devices.

Computer equipment and the network are sufficient, properly administered and secured. Internet connection is sufficient and wireless network is accessible through the premises. There is a high diversity of equipment and technology platforms available for the students, including workstations with dual boot OS, Apple computers, mobile devices, supercomputer and a laboratory with computer network hardware. There is also a possibility for the students to get a dedicated cloud-based virtual environment for practical projects. Software tools selection is relevant to the courses and adequate by the diversity and licences availability. Students are also provided with free of charge Microsoft Windows licences or other software on demand. The centralized source control repository Github is starting to be used for group software development assignment. The panel recommends that the department considers making it obligatory to use the centralized source control environment according to unified policies for all programming projects, in order to prepare the students for real life scenarios and eliminate the risk of losing the results of their projects.

Virtual learning needs improvement. Use of the e-learning system is neither standardized nor obligatory. Teaching staff themselves decide whether and how to use the e-learning system. Students have little awareness of the global e-libraries resources and generally do not use them, unless directly specified by the teacher during the course. The panel recommends that the department introduces unified rules for the teaching staff to make use of a single e-learning system systematic and obligatory.

The library books selection is sufficient and relevant to the studies. Both the usual course textbooks and modern recognized bestsellers are presented, although the level of library computerization is low and the library is not actively used by the students except in the case of direct prescription. The Library is located at the Naugardukas Street site and its working hours are day-time only 9-18:00, which makes it inconvenient to visit after or before lectures at the Didlaukis Street site. Access to global e-libraries is not advertised and awareness among the students is very low. Students do not feel any significant inconveniences during the study process however, since they are provided with necessary materials in terms of the course or find the information in public internet resources on their own. The panel recommends that the Department considers additional communication about the valuable library and global e-library materials by mapping them to particular courses or practical projects, thus increasing student awareness.

The arrangements for students' practical are adequate. Students' awareness of potential employment and career requirements is adequate, although students are not fully aware of ongoing industrial events and activities of local professional communities. The panel recommends that the Department considers additional communication about professional community events and activities, such as gatherings of IT professionals, conferences, project management associations, startup accelerators and boot-camps.

5. Study process and student assessment

The admission requirements are well-founded and student recruitment to informatics, a serious problem for several universities in Lithuania, is not currently a major issue at Vilnius University. However, the proportion of female students is low, so the panel suggests that the Department should consider collaborating with female programmers movements (*e.g.* RailsGirls). Should total numbers fall, the panel suggests promoting this study programme in schools by making presentations, sending students or even professors to teach some informatics lessons in schools, thereby attracting more students to the study programme.

The organisation of the study process ensures an adequate provision of the programme and the achievement of the intended learning outcomes. The assessment system of students' performance is clear, adequate and publicly available. Students are encouraged to participate in research activities.

There are some concerns over student progression numbers, especially between first year and second year. The students identified that one of the main causes of this was their difficulties with one particular course, “Introduction to Computer Architecture”. In the final meeting with staff, the panel recommended that moving this course to second year might be helpful but was informed that this was not the only possible solution to the problem.

Students have opportunities to participate in student mobility programmes but as numbers in the SER show, and confirmed during the meetings both with graduates and undergraduates, students taking this study programme have very low participation in student mobility programmes, mainly because the majority of them have jobs. However, this does not mean that the Department should not encourage students to participate in such programmes. So the panel recommends promoting student mobility programmes and encouraging students to participate by talking about the benefits of these programmes, how they can help students in their subsequent careers and how can they improve their informatics skills by bringing back good practice from other countries. The Department also hosts visiting students from a number of countries and is increasingly teaching courses in English.

The University ensures an adequate level of academic and social support for students and there is a very active Student Union. For students who live in University dormitories, the Faculty tries to ensure that students taking the IT study programme get dormitory places in Didlaukis Street, near to the Department's main premises. Some students get social scholarships.

Some graduates from the programme go on to further study at Masters level (at least) but most go into industry to work as IT specialists (system or network administrators, programmers, web developers, etc.), while some have their own businesses. The subsequent professional activities of the majority of graduates thus meet the Department's expectations.

6. Programme management

The programme is managed and reviewed according to standard and well established methods and techniques that involve all stakeholders, namely, teaching staff, students, alumni and employers. Furthermore, there is a very good hierarchical structure of committees and academic managers that oversee programme management at the University level. The main responsibility for the programme management and review is within the Study Programme Committee, which includes all relevant stakeholders, namely, teachers, social partners/industry representatives and students. The work of the committee is coordinated/overseen by the VU Directorate of Academic

Affairs, which provide the framework and internal regulations for programme management. The programme undergoes both internal and external evaluation and is reviewed by all stakeholders with regards to curriculum, delivery and assessment methods, learning resources and teaching staff and any changes need the approval of the Council of the Faculty.

The involvement of the head of the Study Programme Committee in the Tuning Methodology project and the selection of the programme as an example of best practice at national level, indicates that the programme has undergone a rigorous and thorough review process and re-engineering using the ECTS system and Tuning Methodology requirements and specifications, which provide a quality assurance system for managing study programmes.

The self-evaluation report describes various ways of providing programme management and quality assurance with regards to improving and delivering the curriculum, utilizing the input, active participation and feedback of all stakeholders.

With regards to teaching staff, this entails the review of the courses and checking of the student workload by all teaching staff and the recommendation for changes to the Study Programme Committee. Regular meetings with the Dean and head of the Department provide the forum for discussions for curriculum re-engineering. The report mentions teacher evaluation with respect to “scientific and academic results”.

With regards to employers, alumni and the society, there is a very strong and active participation of employers and social partners in the programme management. The strong academia-industry links, the involvement of employers and IT companies in the delivery of the programme (through student placements/practicum, thesis work/supervision/defence, industry talks and presentations) and the participation of such partners (e.g. Barclays Information Technology Centre) in the Study Programme Committee, allow direct input/feedback. Furthermore, the social partners accept a considerable number of students for professional practice and then select some of them as employees. The industry-academia link is a very strong component of this programme.

Finally, students also participate in the Study Programme Committee and provide input through course evaluation, via questionnaires available at the end of every semester. The results of the questionnaires are discussed by the Study Programme Committee with students and lecturers and administrative staff. Feedback is also provided by both the students and their industry placement mentors through questionnaires. However as pointed out in the report and reported by students,

the percentage of students answering the questionnaires is very low and thus needs to increase drastically.

Student evaluation is taken seriously into consideration when renewing contracts of teachers. Thus teachers who are not good according to students may not continue teaching and may be given a “Senior Research” post, provided that their research record is internationally acknowledged.

III. RECOMMENDATIONS

1. The Department is encouraged to continue with its regular updates to the programme, both in terms of subject material and teaching methods but to formalize further the programme review process, which should be documented and audited at regular intervals.
2. The Department is encouraged to consider a number of minor recommendations regarding the descriptions of courses and to include a number of new topics in the curriculum, as detailed in this report.
3. The Department is encouraged to involve more students and staff in its innovative Problem-based Project but also to introduce more practical work into the programme generally.
4. The Faculty is recommended to engage with other faculties in the University with a view to increasing the range of BUS courses to include ones that are more supportive of computing programmes.
5. The Department is recommended to find a solution to the first-to-second year progression problem.
6. The panel recommends that the Department makes the use of a single e-learning system systematic and obligatory for all teaching staff and takes steps to increase student awareness of its valuable library and global e-library materials.
7. The panel recommends that the Department should contribute to the Faculty's strategic aim of internationalisation by updating and developing the English version of its website in order to attract more students from abroad and by making its own students more aware of international opportunities and encouraging them to participate.
8. The Department is recommended to encourage its students to participate in relevant external events in Vilnius in particular and Lithuania generally.
9. The Department is recommended to take a more systematic approach to obtaining feedback from its students (especially by encouraging more of them to answer questionnaires), alumni and social partners and in reporting back to each of those groups on any responses to their input.

10. The Department is recommended to pursue its goals of moving to a single site and to being able to offer disabled access to its facilities but that in the interim it should continue to upgrade and improve its premises and facilities in line with detailed recommendations included in this report.

IV. SUMMARY

The *Information Technologies* study programme provides a high quality first-cycle qualification comparable with the best bachelor-level degrees in informatics in universities across Europe. The description of the intended learning outcomes is clear and straightforward and the intended learning outcomes are defined according to international standards. The study programme's aims and intended learning outcomes are published on the Web, though they are not currently accessible in English. The Department is aware that it needs to rectify this situation in line with the Faculty's strategic internationalisation policy.

The curriculum offers students a solid grounding in informatics in the early years and a choice of specialisation in the later years. Students undertake a good amount of practical work, though the panel believes that this should be increased, especially the amount of group work. The recent introduction of an optional major group-work Problem-based Project is highly commendable and could with advantage be extended to all students. This report includes a number of recommendations regarding the inclusion of topics that are becoming increasingly important, but these are meant as helpful suggestions rather than major criticisms.

The staff are clearly adequate in both numbers and qualifications to deliver this programme and are active in research, with good publication records, both nationally and internationally, in areas directly related to the programme. The age profile of the teaching staff is very healthy and the Department makes good use of younger staff to bring in modern computing topics. Better use could perhaps be made of social partners to contribute lectures on specialised topics relevant to students' future employment.

The Department's activities are currently spread over two sites, so a move to a single purpose-built building, with easy disabled access, would be advantageous. Staff and students were however clear that the timetable was arranged to avoid inter-site travelling during the course of any one day. In general the facilities available at each site are at least adequate and the panel is pleased to see that there is a programme of ongoing development and improvement. Internationally, students increasingly expect course material to be available through some form of e-learning environment. There is room for improvement here in terms of standardisation of the use of the e-learning facilities.

The organisation of the study process ensures appropriate delivery of the programme and the achievement of the intended learning outcomes. The final project reports gave the panel confidence that the output standards of the programme are internationally comparable. However,

the panel believes that greater encouragement should be given to students to participate not only in international exchange schemes but also in local events relevant to their future careers. Also, as is the case in many countries, but especially in Lithuania at the present time, the numbers of students enrolling on informatics courses is falling, so the panel would like to encourage the Department to engage more in recruitment activities with schools and other relevant communities.

The programme is well managed in general, according to standard and well established methods and techniques that involve all stakeholders. The University has a very good hierarchical structure of committees and academic managers. The panel nevertheless believes that greater attention should be given to the Department's quality assurance processes by involving students, alumni and social partners in a more systematic way, and in providing these groups with feedback on actions taken in response to their input.

V. GENERAL ASSESSMENT

The study programme *Information Technologies* (state code – 612I10003) at Vilnius 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	4
2.	Curriculum design	3
3.	Staff	4
4.	Material resources	3
5.	Study process and assessment (student admission, study process student support, achievement assessment)	4
6.	Programme management (programme administration, internal quality assurance)	3
	Total:	21

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

Grupės vadovas:
Team leader:

Prof. Roland N. Ibbett

Grupės nariai:
Team members:

Prof. Philippos Pouyioutas

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**VILNIAUS UNIVERSITETO PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS
INFORMACINĖS TECHNOLOGIJOS (VALSTYBINIS KODAS – 612I10003) 2013-12-13
EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-551 IŠRAŠAS**

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus universiteto studijų programa *Informacinės technologijos* (valstybinis kodas – 612I10003) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	4
2.	Programos sandara	3
3.	Personalas	4
4.	Materialieji ištekliai	3
5.	Studijų eiga ir jos vertinimas	4
6.	Programos vadyba	3
	Iš viso:	21

* 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

Baigus *Informacinių technologijų* studijų programą įgyjama aukštos kokybės pirmosios pakopos kvalifikacija, prilygstanti geriausiems Europos universitetų informatikos bakalauro laipsniams. Numatomų studijų rezultatų formuluotės yra aiškios, apibrėžtos laikantis tarptautinių standartų. Studijų programos tikslai ir numatomi studijų rezultatai yra skelbiami interneto puslapyje, tiesa, kol kas informacija apie juos nėra pateikiama anglų kalba. Katedra apie egzistuojančią problemą ir reikmę ją spręsti, siekiant vykdyti strateginę Matematikos ir informatikos fakulteto tarptautiškumo politiką, žino.

Pirmaisiais studijų metais studentams yra suteikiamos tvirtos informatikos pagrindų žinios, vėliau yra renkama specializacija. Studentai atlieka pakankamai daug praktinių darbų, nors, ekspertų

grupės manymu, praktikos, ypač susijusios su darbu grupėmis, apimtį reikėtų dar padidinti. Itin teigiamai vertintinas neseniai įdiegtas, laisvai pasirenkamas Problemų sprendimo, dirbant grupėmis, projektas, kuriame sėkmingai galėtų dalyvauti visi studijų programos studentai. Pažymėtina, kad nors šiose vertinimo išvadose rekomenduojama į studijų programą įtraukti temas, kurios šiandien informacinių technologijų specialistui tampa vis svarbesnės, tačiau šios rekomendacijos laikytinos daugiau naudingais siūlymais nei rimta studijų programos kritika.

Dėstytojų skaičius ir kvalifikacija yra adekvatūs šios studijų programos vykdymo atžvilgiu. Studijų programos akademinis personalas aktyviai dalyvauja moksliniuose tyrimuose, nemažai publikuoja šalies ir tarptautiniuose leidiniuose. Daugelis publikacijų yra tiesiogiai susijusios su vertinama studijų programa. Dėstytojų amžiaus vidurkis nėra probleminė studijų programos sritis. Katedra tinkamai panaudoja jaunesnių dėstytojų potencialą šiuolaikinės kompiuterijos temoms dėstyti. Galbūt reikėtų į mokymo procesą įtraukti daugiau socialinių partnerių, siekiant, kad jie dėstyty paskaitas specialiomis temomis, turėsiančiomis įtakos studentų įsidarbinimui ateityje.

Katedra šiuo metu savo veiklą organizuoja ir vykdo dviejose vietose, todėl būtų pravartu persikelti į vienas tam skirtas patalpas, kurios būtų pritaikytos neįgaliesiems. Atkreiptinas dėmesys, kad dėstytojai ir studentai patikino, jog tvarkaraštis yra sudėliojamas taip, kad tą pačią dieną nereikėtų keliauti iš vienos vietos į kitą. Apskritai abiejų patalpų infrastruktūra vertinama kaip tinkama studijoms vykdyti, be to, ekspertų grupei vizito metu tapo aišku, kad programos vykdytojai atlieka reikiamus pokyčius šia linkme. Vertinant tarptautiniu požiūriu, studentai tikisi, kad mokomoji medžiaga vienokia ar kitokia forma bus prieinama e. mokymosi aplinkoje. E. mokymosi infrastruktūros naudojimas standartizacijos požiūriu vis dar reikalauja tobulinimo.

Studijų procesas organizuojamas taip, kad užtikrintų tinkamą programos vykdymą ir numatomų studijų rezultatų pasiekimą. Susipažinusi su studentų baigiamaisiais darbais, ekspertų grupė įsitikino, kad studijų programos išeigos standartai yra lygintini su tarptautiniais. Vis dėlto, ekspertų grupės nuomone, studentus reikėtų labiau skatinti dalyvauti ne tik tarptautinėse mainų programose, bet ir vietiniuose renginiuose, galimai susijusiuose su būsima jų karjera. Be to, kaip ir daugelyje šalių, o ypač šiandienos Lietuvoje, stojančiųjų į informatikos studijas mažėja, todėl ekspertų grupė ragina katedrą aktyviau populiarinti studijas ne tik mokyklose, bet ir kitose suinteresuotose bendruomenėse.

Studijų programos vadyba apibūdintina kaip tinkama, vykdoma laikantis nustatytų standartų ir pripažintų metodų, įtraukiančių visus socialinius dalininkus. Universitete veikia puiki hierarchinė

komitetų ir akademinio valdymo struktūra. Nepaisant to, ekspertų grupės nuomone, daugiau dėmesio reikėtų skirti sistemingesniam katedros kokybės užtikrinimo vykdymui, įtraukiant studentus, absolventus ir socialinius partnerius, taip pat pateikti šioms grupėms grįžtamąjį ryšį apie tai, kokių veiksmų buvo imtasi reaguojant į jų siūlymus.

III. REKOMENDACIJOS

1. Katedra skatinama tęsti studijų programos atnaujinimo procesą tiek dalykinės medžiagos, tiek dėstymo metodų atžvilgiu, taip pat formalizuoti studijų programos vertinimo procesą, kuris turėtų būti dokumentuotas, o jo vykdymas reguliariai tikrinimas.
2. Katedra skatinama apsvaistyti keletą nedidelių rekomendacijų dėl studijų dalykų aprašų, taip pat įtraukti į studijų programą keletą naujų temų, išsamiau minimų šių vertinimo išvadų Programos analizės dalyje.
3. Į alternatyvų inovatyvaus Probleminio-mokymosi projektą Katedra skatinama įtraukti daugiau studentų ir dėstytojų. Taip pat rekomenduojama į studijų programą įtraukti daugiau praktinių darbų.
4. Matematikos ir informatikos fakultetui rekomenduojama užmegzti dialogą su kitais universiteto fakultetais siekiant išplėsti bendrojo universitetinio lavinimo dalykų sąrašą, į kurį turėtų patekti su informatika labiau susiję studijų dalykai.
5. Katedrai rekomenduojama ieškoti būdų, kaip išspręsti „perėjimo iš pirmųjų studijų metų į antruosius“ problemą.
6. Ekspertų grupė rekomenduoja katedrai naudotis viena visiems dėstytojams privaloma e. mokymosi sistema, taip pat imtis priemonių siekiant atkreipti studentų dėmesį į turimos bibliotekos ir pasaulinės e. bibliotekos medžiagos vertę.
7. Ekspertų grupė katedrai rekomenduoja prisidėti prie Matematikos ir informatikos fakulteto strateginio tikslo – tarptautiškumo plėtojimo, atnaujinant bei patobulinant savo interneto svetainės versiją anglų kalba. Tai suteiktų galimybę pritraukti daugiau studentų iš užsienio, o saviems studentams suteiktų daugiau žinių apie tarptautines galimybes bei paskatintų tomis galimybėmis pasinaudoti.

8. Katedrai rekomenduojama skatinti studentus dalyvauti atitinkamuose profesiniuose renginiuose, vykstančiuose tiek Vilniaus mieste, tiek ir visoje Lietuvoje.
9. Katedrai rekomenduojama vadovautis sistemiškesniu požiūriu į grįžtamojo ryšio gavimą iš studentų (ypač skatinti juos kuo aktyviau pildyti klausimynus), absolventų ir socialinių partnerių. Kiekvienai iš minėtųjų grupių taip pat turėtų būti pateikiamas grįžtamasis ryšys, kaip yra / buvo reaguojama į jų išsakytus pastebėjimus.
10. Siekiant užsibrėžtų tikslų rekomenduojama perkelti visus materialiuosius išteklius į vienas patalpas, taip pat patalpas pritaikyti neįgaliųjų poreikiams. Pereinamuoju laikotarpiu reikėtų tęsti turimų išteklių atnaujinimą bei infrastruktūrą, vadovaujantis šiose vertinimo išvadose pateiktais siūlymais.

<...>

Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso¹ 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

¹ Žin., 2002, Nr.37-1341.