STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

KAUNO TECHNOLOGIJOS UNIVERSITETO

INFORMACINIŲ TECHNOLOGIJŲ PROGRAMOS (621E14001)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *INFORMATION TECHNOLOGIES* (621E14001)

STUDY PROGRAMME

AT KAUNAS UNIVERSITY OF TECHNOLOGY

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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	**Informacinės technologijos**
Valstybinis kodas	621E14001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (2), ištęstinė (3)
Studijų programos apimtis kreditais	120
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informatikos inžinerijos magistras
Studijų programos įregistravimo data	2007-02-19 Lietuvos Respublikos švietimo ir mokslo ministro įsakymas Nr. 225

INFORMATION ON ASSESSED STUDY PROGRAMME

Name of the study programme	**Information Technologies**
State code	621E14001
Study area	Technological Sciences
Study field	Informatics Engineering
Kind of the study programme	University studies
Level of studies	Second
Study mode (length in years)	Full-time (2), part-time (3)
Scope of the study programme in credits	120
Degree and (or) professional qualifications awarded	Master of Information Technologies
Date of registration of the study programme	19-02-2007, Order No. 225 of the Minister of Education and Science of the Republic of Lithuania

CONTENTS

I. INTRODUCTION

The Lithuanian Centre for Quality Assessment in Higher Education has invited four independent experts and one representative of students (hereinafter called Expert Team) from Estonia, Latvia, and Lithuania, to review and assess the higher education second cycle study (Master) programme *INFORMATION TECHNOLOGIES* (state code 621E14001, informatics engineering study field) at the Kaunas University of Technology (KTU). The study programme (further Programme), both in full- and part-time mode, is provided by the Department of Multimedia Engineering (DME) of the Faculty of Informatics (further Faculty). Implementing the Programme is supported also by other units and departments.

One of the distinctive features of the Programme is its conversional character. This enables bachelors of different specialties to earn the master's degree in information technologies. Namely, only the students with bachelor qualification degree in Technologies or Physical Sciences (excluding the fields of Information Technology and similar fields) as well as Business and Management can be admitted.

The Expert Team visited the Faculty on October 2-4, 2012[1]. All activities during the visit were scheduled for October 2, except observation of various support services (class rooms, computer services, library), which took place on October 4.

On October 2, the Expert Team met the administrative staff (8) of the Faculty represented by the Dean, three Deputy Deans, and the Heads of Software Engineering, Information Systems, Business Informatics and Computer Science departments. General issues, such as Faculty structure, financing scheme, quality management, web-site structure, promotion of study programmes were discussed. Next a meeting with staff (5) responsible for preparation of the Self-Assessment Report was conducted. At this meeting, the Expert Team was given some answers to the questions concerning less uncovered in the self-assessment report issues. After that, a meeting with 7 members of teaching staff of the Programme took place (one teacher from DME participated).

The Expert Team conducted also interviews with some students. The group consisted of 7 students, among them 4 1st-year undegraduates and 3 2nd-year undergraduate students. The Expert Team was familiarized with students' attitude towards the Programme; the students expressed mostly positive opinions about the Programme. A few possible improvements were proposed by the students. The Expert Team had possibility to familiarize with students' final works. Finally, in separate meetings, the Expert Team met 4 graduates and 5 social partners. The graduates as well as the social partners expressed positive attitudes about the Programme.

At the conclusion of the visit, the Expert Team conducted a meeting with staff of the Faculty and introduced general remarks of the visit and highlighted some strengths and weaknesses of the programme under review.

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[1] During this period (October 2-4) the Expert Team had actually a joint visit concering also 4 other study programmes at the Faculty. Some of the meetings with the Programme stakeholders were performed jointly.

The findings of the Expert Team are reflected in the following. The self-assessment report (further SAR) submitted by Faculty, the observations made at the time of the visit, and the supplementary material received during the visit form the basis of these assessments.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The Programme learning outcomes are well defined and clear. They are publicly accessible in KTU web-pages. The Programme learning outcomes are consistent with the type and level of studies and the level of qualifications offered.
The name of the Programme, its learning outcomes, content and the qualifications offered are compatible with each other.
Unfortunately, Programme aims are not specified at all. In the KTU web-pages (in English), instead of the Programme aims, profile of graduates' acquired knowledge is described (in the section called "Programme profile"). In SAR, Table 3, the second column is titled "Aims of *Information Technologies* study", however, the table entries in this column are some kind of general learning outcomes for the Programme. Though, few aims are implicitly specified in SAR items 24 and 25. Due to deficiency of aims, it is impossible to decide about substantiation of learning outcomes and, in turn, about soundness of curriculum (content) design. For the same reason, it is not clear are the Programme learning outcomes based on public needs and the needs of the labour market. Though, the learning outcomes very likely satisfy the academic and professional requirements.

2. Curriculum design

The curriculum design meets legal requirements.
Study subjects and/or modules are spread evenly, their themes are not repetitive.
The content of the subjects is rather perfect and fully consistent with the type and level of the studies. Though, it would be necessary to request more individual work and give more space for mathematics, data bases, project management, software integration (perhaps at the expense of less coding issues). To the end that to ensure such changes, the Programme content should be considerably revised.
The content and methods of the subjects are appropriate for the achievement of the intended learning outcomes.
The scope of the Programme is sufficient to ensure learning outcomes. However, the learning outcomes of subjects have no visible relations with the learning outcomes of the Programme.
The content of the Programme reflects amply the latest achievements in science and technologies.
There are bachelor-level courses in the curriculum (programming, modern operating systems et al.) which contents is practically the same as in bachelor programmes (though, the subject names differ). Although existence of such courses is inherent for conversion type of studies, some efforts to raise a bit the level of those would be pertinent.

Certain adjusting of the subject sequence (or revising prerequisites) is needed; for example, "Algorithms and Object-Oriented Programming" is studied in the first semester together with "Computer Graphics Systems", while Programming is indicated as a prerequisite for "Computer Graphics Systems".

3. Staff

The Programme is provided by the staff meeting legal requirements. The qualifications of the teaching staff are almost adequate to ensure learning outcomes. It should be mentioned that there is a teacher in the Programme having no doctor degree and having no scientific activity (SAR, Annex 2 – *List of Teachers*, and Annex 3 – *Descriptions of Teachers Research and Educational Activities*).

The number of the teaching staff (5 professors, 6 docents and 4 lectors) is adequate to ensure learning outcomes. All teachers in the Programme work full-time.

Teaching staff turnover is able to ensure an adequate provision of the Programme. Average age of professors is becoming worrying: 61.6 years.

Conditions for the professional development of teaching staff necessary for the provision of the Programme are created. A number of opportunities exist: traineeship in foreign research and education institutions; position of research associate in foreign research and education institutions; traineeship in production companies and organizations; scientific research, scientific and/or professional training away from educational work; courses, seminars and other events for qualification improvement; training under personal initiative during unpaid leave; research leave. An overall system of sabbatical leaves is not developed at KTU.

The majority of teachers are active scientists who carry out research, perform applied scientific activity and publish results. However, rather small amount of articles have been published in ISI journals. As reflected in SAR,Annex3 – *Descriptions of teachers research and educational activity* the research areas of interest of teachers, working in the Programme, correspond to the study field of the subject they teach. There are 3 teachers with empty list of bibliographical entries of the issued academic publications in the last 5 years (handbooks, books, methodical means).

4. Facilities and learning resources

The premises for studies are sufficient both in their size and quality.

The teaching and learning equipment (laboratory and computer equipment, consumables) are adequate both in size and quality.

Teaching materials (textbooks, books, periodical publications, databases) are adequate and accessible. However, accessibility to sources of all subjects is a concern. There is no full access to online literature sources from home. At the same time, good infrastructure for distance learning exists.

5. Study process and student assessment

The Programme is conducted in the form of distance learning. Websites with educational material, video conferences, VLE Moodle are in use. During the semester, students carry out

individual tasks, which are checked during three 1-2-day long non-distance midterms conducted following the work schedule prepared together with students, and take the examinations during the examination session. Part-time study mode is possible, but there is no much demand for that (only 1 student from 2011).
The admission requirements are well-founded. There is a weak competition among the entrants, the number of entrants to one place amounts approximately to 1. A threshold level has been set: the learning outcomes achieved in the fist-cycle studies by entrants must ensure the ability to meet the threshold level of the programme, i.e. knowledge and skills in formulating and solving information processing tasks to reach the established aim. However, neither the threshold level nor the procedure to verify it, is not clearly specified.
The organisation of the study process ensures an adequate provision of the Programme and the achievement of the learning outcomes.
The study subject descriptions contain "Plan of in-class hours" (lectures: 2+2+4+2+6+…, labs: 2+…). Such plans can hardly be realized in distance learning study mode.
Students are encouraged to participate in research activities. Master students have a possibility to present the results of their research in students' conferences as well as other scientific conferences. This opportunity is not used by the students.
Students have opportunities to participate in student mobility programmes. But the students are not interested in mobility programmes due to various reasons (short duration of master's studies, family, job, financial resources, etc.). Due to the specificity of the Programme, no students have taken any opportunity of the mobility programmes.
The KTU ensures an adequate level of academic and social support.
The assessment system of students' performance is clear, adequate and publicly available.
Professional activities of the majority of graduates meet the Programme providers' expectations.
Some wishes expressed by the students and Alumni:

- Learning materials should be concentrated.
- Currently there are different environments for electronic material for separate subjects – some in university Moodle, some in other places.
- Need for more contacts with companies, e.g. invited lectures.
- There should be even more videotyped lectures and lectures in English.
- Would be good to have evening lectures.

6. Programme management

Responsibilities for decisions and monitoring of the implementation of the Programme are clearly allocated.
It is not clear, are information and data on the implementation of the Programme are regularly collected and analysed.
No evidence that the outcomes of previous evaluations of the Programme are fully used for the improvement of the Programme. In particular, no actions seem to be taken according to the following recommendation: formulate additional requirements for entrants, because some of the admitted students lack knowledge essential for the master's studies; the students who do not meet the conditions should opt at paid bridging courses.
The evaluation and improvement processes involve stakeholders only to some extent. The involvement could be more active; only one person from Alumni meeting had had a chance to

say his comments to the Faculty (via e-mail), the others seem not to have closer contacts with the Faculty.
Information on employment is not systematically compiled, it is satisfied by the individual interviews with alumni and social stakeholders.
The internal quality assurance measures should be more effective and efficient. The Programme is not assigned any specific self-control mechanism: instead the control is carried out by general measures applied in the KTU, such as certification of teachers, surveys of students.

III. RECOMMENDATIONS

1. The Faculty of Informatics should consider to essentially strenghten the study programme management in all of its aspects. The most urgent tasks are as recommended in the following.

2. Redesign the study programme: first, precisely specify its aims and goals, revise learning outcomes according to the aims and goals, substantiate the choice of subjects composing the set from the subjects which learning outcomes contribute (in total) to all of the learning outcomes of the study programme.

3. Do active marketing, promoting the (newly designed) study programme as a really good opportunity to obtain (conversion) Master degree in Information Technologies.

4. Naturally, the updated programme governing body would consider also the minor possible improvements (e.g. students wishes) highlighted above in this Report.

IV. SUMMARY

The higher education second cycle study (Master) programme *INFORMATION TECHNOLOGIES* (state code 621E14001, informatics engineering study field) at the Kaunas University of Technology is provided (practically only in full-time mode) under the leadership of the Department of Multimedia Engineering of the Faculty of Informatics. One of the distinctive and remarkable features of the study programme is its conversional character. This enables bachelors of different specialties to earn the master's degree in information technologies. Namely, only the students with bachelor qualification degree in Technologies or Physical Sciences (excluding the fields of Information Technology and similar fields) as well as Business and Management can be admitted.

Currently the programme is not popular among entrants: only 12 admitted in 2011. The study programme needs some redesign and refinement. In case if the programme goals and aims would be clearly posed and curriculum revised accordingly, the programme would become far more attractive.

As for the current study programme, the most positive aspects are: conversional character of the programme, distance education mode, opportunity to combine learning and work, qualifications of the teaching staff, distance learning infrastructure, facilities and learning resources.

Some of the concerns which could be taken into account while implementing the (redesigned) study programme: usage of modern distance teaching methods in all courses, concentration of online resources, involving into study process experts from industry and abroad, activating international exchange, involving more actively teachers as well as all stakeholders into the programme management and developing process.

V. GENERAL ASSESSMENT

The study programme *Information Technologies* (state code – 621E14001) at Kaunas University of Technology is given **positive** evaluation.

Study programme assessment in points by fields of assessment.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	2
2.	Curriculum design	3
3.	Staff	3
4.	Material resources	3
5.	Study process and assessment (student admission, study process student support, achievement assessment)	3
6.	Programme management (programme administration, internal quality assurance)	2
	Total:	**16**

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

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

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

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

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