



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Šiaulių valstybinės kolegijos
STUDIJŲ PROGRAMOS "MULTIMEDIJOS TECHNOLOGIJOS"
(valstybinis kodas – 653E14004)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF "MULTIMEDIA TECHNOLOGIES" (state code -653E14004)
STUDY PROGRAMME
at Šiauliai State College

Review' team:

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Išvados parengtos anglų kalba
Report language – English

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2017

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	Multimedijos technologijos
Valstybinis kodas	653E14004
Studijų sritis	Technologijos mokslai
Studijų kryptis	Informatikos inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (3); iššęstinė (4)
Studijų programos apimtis kreditais	180
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Informacinių technologijų profesinis bakalauras
Studijų programos įregistravimo data	2012

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	Multimedia technologies
State code	653E14004
Study area	Technological studies
Study field	Informatics Engineering
Type of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time (3); part-time (4)
Volume of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor degree in Information Technologies,
Date of registration of the study programme	2012

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The Centre for Quality Assessment in Higher Education

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I. INTRODUCTION

1.1. Background of the evaluation process

The evaluation of on-going study programmes is based on the **Methodology for evaluation of Higher Education study programmes**, approved by Order No 1-01-162 of 20 December 2010 of the Director of the Centre for Quality Assessment in Higher Education (hereafter – SKVC).

The evaluation is intended to help higher education institutions to constantly improve their study programmes and to inform the public about the quality of studies.

The evaluation process consists of the main following stages: 1) *self-evaluation and self-evaluation report prepared by Higher Education Institution (hereafter – HEI)*; 2) *visit of the review team at the higher education institution*; 3) *production of the evaluation report by the review team and its publication*; 4) *follow-up activities*.

On the basis of external evaluation report of the study programme SKVC takes a decision to accredit study programme either for 6 years or for 3 years. If the programme evaluation is negative such a programme is not accredited.

The programme is **accredited for 6 years** if all evaluation areas are evaluated as “very good” (4 points) or “good” (3 points).

The programme is **accredited for 3 years** if none of the areas was evaluated as “unsatisfactory” (1 point) and at least one evaluation area was evaluated as “satisfactory” (2 points).

The programme is **not accredited** if at least one of evaluation areas was evaluated as "unsatisfactory" (1 point).

1.2. General

The Application documentation submitted by the HEI follows the outline recommended by the SKVC. Along with the self-evaluation report and annexes, the following additional documents have been provided by the HEI before, during and/or after the site-visit:

No.	Name of the document
1.	List of the College study programmes 2016-2017.
2.	Organisational Structure of SVK.
3.	Development strategy of the college 2011-2020 (in Lithuanian language).

The basis for the evaluation of the study programme is the Self-evaluation Report (hereafter, the SER), prepared in 2016, its annexes, the relevant legal acts, and the site visit of the Review

Team (RT) to SVK on 25 April 2017. The visit incorporated all required meetings with different groups: the administrative staff / senior management of the SVK, staff of the Informatics Engineering Department, responsible for preparing the self-evaluation documents, teaching staff, students of all years of study, graduates and employers. The RT evaluated various support services (classrooms, laboratories, library, computer facilities), examined students' graduation theses, and various other materials. After the RT discussions and additional preparations of conclusions and remarks, introductory general conclusions of the visit were presented. After the visit, the RT met to discuss and agree the content of the report, which represents the RT consensual views.

1.3. Background of the HEI/Faculty/Study field/ Additional information

Šiauliai State College is the largest state-owned college in the region. The college is focused on regional needs and considers quality as its ultimate goal. It has two faculties: Faculty of Business and Technologies, and the Faculty of Health Care. The Multimedia Technologies study programme is conducted by the Informatics Engineering Department which belongs to the Faculty of Business and Technologies.

1.4. The Review Team

The review team was completed according *Description of experts' recruitment*, approved by order No. V-41 of Acting Director of the Centre for Quality Assessment in Higher Education. The Review Visit to HEI was conducted by the team on 24/04/2017.

- 1. Prof. Liz Bacon (team leader)**, *Professor of Software Engineering, Deputy Pro Vice-Chancellor, Faculty of Architecture, Computing and Humanities, University of Greenwich, United Kingdom.*
- 2. Prof. Peeter Normak**, *Director of the School of Digital Technologies, Tallinn University, Estonia.*
- 3. Prof. Robert Pucher**, *Head of the Department of Computer Science, University of Applied Sciences "Technikum Wien", Austria.*
- 4. Ms Vilma Eidukynaitė**, *Director of UAB "IT Akademija", Lithuania.*
- 5. Mr Vytautas Mickevičius**, *doctoral student of Vytautas Magnus University, study programme Informatics.*

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The formulations of intended learning outcomes are partly formulated in terms of activities, not in terms of competences of the graduates. For example: “To prepare a technical task for creation of the multimedia product” (it would be better expressed as “Is able to prepare a technical task for creation of the multimedia product”). The meaning of some intended learning outcome may have suffered in translation. Examples: 1) “To know main factors of business environment, project management and take responsibility for the results of engineering activities” which apparently has the results of the graduate’s engineering activities in mind; 2) “To effectively choose and use hardware for creation of multimedia technologies” – apparently creation of multimedia products/solutions was meant. Use of the word “understand”, “know” and “perceive” are considered hard to measure and should be replaced with an appropriate verb following from a sentence such as “At the end of the bachelor degree, students should be able to”.

Programme objectives and learning outcomes are publicly available both in Lithuanian and in English languages.

The study programme was developed after conducting a market analysis and is gradually being improved taking into account the market observations (including job advertisements). The programme objectives and intended learning outcomes harmonise with the profile of *Web and Multimedia Developers* (ISCO-08 code 2513, <http://www.profesijuklasifikatorius.lt/?q=en/grupesinfo>) defined in the *Lithuanian Republic Professions Classifier* and were discussed with social partners and with the graduates. They both agreed that the programme objectives and intended learning outcomes are linked to the state, societal and labour market needs. Employers pointed out that the need for the graduates is so great that the world of work cannot be saturated in the near future.

The mission and vision of the college are formulated in general terms and do not specify any study area. Similarly, the strategy of the college (that was available in Lithuanian language only) does not specify any study programme. The members of the administration / senior management team identified *regional*, *state* and *quality* as the keywords that determine the identity of the college. Therefore, it can be concluded that the programme objectives and intended learning outcomes correspond to the principles stated in the mission and strategy of the college.

The programme objectives and intended learning outcomes were formulated considering ACM recommendations for first level university degree in information technology, “Descriptor of the Study Field of Engineering” (Order No V-964 of the Minister of Education and Science of the Republic of Lithuania of 10 September 2015) and other relevant documents. The intended learning outcomes of the study programme confirm with these described in the Descriptor.

Although the learning outcome “To perform information search and analysis in order to apply latest technologies for management of processes in the organization” is quite ambitious and could be considered more suitable for master level programmes, in general the programme objectives and intended learning outcomes correspond to the type and to the first cycle of studies and to the level of qualification.

30% of the total volume of the study programme coincides with the study programme “Information Systems Technology”, but the vast majority of the rest is devoted to different aspects of multimedia development. Only the relevance of a part of the course “Materials Science” remained questionable. The content of the common 30% could also be reconsidered, focusing more on ICT study area, replacing, for example, “Physics” by “Robotics” or “Internet of Things”. Overall, the title of the programme, intended learning outcomes, the content of the programme and the qualification to be obtained are well-tuned.

2.2. Curriculum design

The programme meets the legal requirements. Both full-time and part-time modes are identical in content, but studied over a different time frame, three years for full-time students, four years for part-time students. Within the 180 credits for both modes of study all requirements have been met and some exceeded, these being 141 credits for subjects of the study field (minimum 135), final thesis credits 12 (minimum 9), the professional placement of 30 credits (minimum 24) and, the practice placements and other practical placement account for 67 credits (minimum is one third which is 60).

The curriculum was felt to reflect the learning outcomes of the programme well and is broadly consistent with awards in Europe of a similar title. The content is taught in a consistent manner. It is well-received by social partners and students and feedback from both groups has already led to changes in the programme, primarily to reduce the programming content and increase the multimedia content. The core subjects taught are appropriate for the learning outcomes however

the programme is quite broad covering programming and multimedia and it may be better to consider a more focused programme in the area of multimedia.

With regard to the latest technological resources, much of the reading literature identified in subject (module) specifications is quite dated when technology in that subject has moved on. It was noted that some issues are due to the slow translation of books into Lithuanian however more up-to-date reading materials, mostly online, are used and the documentation should be updated to genuinely reflect the reading materials used on the study programme.

The college has a small multimedia lab however this is supported by using additional resources at the local university which is a good initiative to enhance the facilities available to students on the programme. Whilst the latest hardware and software is used on the programme, this is also not reflected in the curriculum documentation and it should be updated accordingly. The Programme Study Committee is recommended to consider the European curriculum guidelines from the body EQANIE as well as other international guidance such as ACM. In general the practical skills taught on the programme were very good, however more attention needs to be paid to ensure transferable skills are developed in students, such as team working skills.

The bachelor thesis showed that students have developed very good practical skills suitable for an applied bachelor degree, the thesis did not however demonstrate that students have achieved the level of critical thinking, evaluation and analysis, demonstrated through discussion of choices, rationale for decisions, appropriate reflection on work undertaken etc. normally expected of bachelor degree students. As a result they do not compare well with international standards in these aspects so should be enhanced and assessment grades adjusted accordingly. Embedding support from experienced researchers should help support students develop this area.

2.3. Teaching staff

Around 31% of study field subjects' volume is taught by recognised artists or scientists. Around 61% of teaching staff does have three or more years of experience in their field of teaching. This meets the legal requirements for teaching staff of the programme.

To ensure their continuous qualification for teaching, many teachers are working part time in companies. The formal selection process for teachers ensures that all teaching staff does have at

least three years of practical experience and that all teachers do hold a master's degree (or equivalent) in the field of teaching. The qualifications of the teaching staff are adequate to ensure learning outcomes.

Around 30% of the working time of teachers is reserved for activities like research and consulting. Junior teachers do have around 900 hours of contact time with students per year. This seems to be high and should be reduced to allow more time for the preparation of new lessons or the implementation of changes in the curriculum. As a rule of thumb one hour of contact time requires another hour of supporting activities like preparing lessons, exams or organizing students. In general teachers seem to have enough time to ensure the quality of teaching.

The staff:student ratio was approximately 1:16 in the study year 2015. Interviews with students indicate a short response time of teachers to questions which would indicate an adequate staffing resource. The number of teaching staff is adequate to ensure the intended learning outcomes.

Activities such as visiting other universities or attending conferences along with trainings are offered to teachers to ensure their quality of teaching. On average around two and a half weeks was spent in seminars per teacher. Internships in companies are done by teachers to ensure they are familiar with industry practice. Eleven teachers participated in exchange programs in six different countries in the evaluated period.

In interviews students reported that teachers quickly provide answers to questions via electronic means (e.g. email). Starting in 2015 the college organises an international week to intensify contact with other universities which also helps teachers to improve their knowledge. To ensure the contents of teaching are in line with the needs of companies, teachers are in close contact with companies. Teachers only participate in research activities to a relatively small extent and there is room for improvement here. Teachers need to be involved in research activities to ensure they are familiar with scientific methods in their specific field of teaching. The turnover rate of teaching staff is small enough to ensure an adequate and stable provision for the programme.

2.4. Facilities and learning resources

The review panel was given a tour of the facilities and learning resources. The premises and equipment for studies are adequate, both in their size and quality. There are 10 laboratories

including 7 specialized computer, physics and labor safety rooms assigned for the implementation of the programme.. All classrooms are functional, have projectors for presentations and met the requirements for a suitable learning environment but not all classes are modern and inspiring. Some students use their own computer in the College. Distance Studies Classroom may be used in the study process. The College has an agreement with Šiauliai University and can use Audio and Video Laboratory of Šiauliai University. The students commented that WIFI access is poor in some areas of the building.

Different types of licensed and modern software are used in computer laboratories for developing practical skills of students. There has been signed a license rent agreement for MS products with Microsoft alliance (MSDN, DreamSpark) that allows students and teachers to use the latest software for teaching/learning purposes. The College is member of Autodesk Inc. Education Community but this fact is not mentioned in SER.

There are adequate arrangements for students' practice. The students choose the practice placement themselves or they are suggested by a practice supervisor. The College has agreements with social partners to support this. Graduation practice is carried out in those companies.

The students rarely use the text books in the library, many of which are very dated, they all use online materials and the College should update the documentation to reflect the reality of the reading materials they actually use. The library should have at least one copy of the latest text books for reference in English if a Lithuanian version is not available.

Students have access to books not only in the College library, but also in Šiauliai County Povilas Višinskis Public Library and Šiauliai University Library. The students have access to subscribed databases (EBSCO Publishing, Oxford University Press (OUP), Emerald Management eJournals Collection, Taylor & Francis) and access to the electronic library catalogue www.aleph.library.lt, ACM Digital Library and the IEEE Xplore Digital Library.

2.5. Study process and students' performance assessment

The entrance requirements for the study programme are appropriate and publicly available. Clear information is provided to students, and is well organised and consistent, and meets the needs of the region. Social partners are very happy with the graduates of the programme and would like

many more although it was noted that graduates tend to leave the city for employment elsewhere once they graduate. However this does indicate that the students are in demand locally, nationally and internationally. Given the demand for graduates, it is therefore disappointing to note the drop in numbers in 2016 from a relatively stable intake of 24/25 students every year since 2012 to 17 (combined full-time and part-time). The average scores of admitted students were 3.04 in 2014, 2.48 in 2015 and 2.69 in 2016 so the slight increase this year was welcome.

The programme is well-supported by teaching from industry representatives and staff who are engaged in applied research and consultancy for industry. These strong links facilitate student engagement in both scientific and artistic projects for industry which is a good feature of the programme.

The teaching is supported by the Moodle virtual learning environment and there is a good range of assessments on the programme which meet the learning outcomes. However project-based learning and team working opportunities should be enhanced to support the development of these important lifelong skills. Students are supported both academically and socially by staff and responses by staff to queries outside class contact are generally swift. The turnaround time for marking assignments is also very fast, varying from immediate to about a week.

Students were very positive about their experience although most expressed a preference for the multimedia modules on the programming over the programming subjects. Overall they were very happy with the resources apart from a few areas where the wifi access was unavailable or very slow but this did not have a significant impact on their studies.

The students have some good opportunities for mobility exchanges under the Erasmus+ scheme and are informed about them regularly. Some students have taken up the opportunity and had a good experience however many have personal restrictions on travel such as employment commitments which make it difficult to engage with this programme.

Most students were aware that a formal complaints and appeals procedure exists however, no student engaged in the review process had felt the need to use either of these as issues they raise with the college are generally responded to very quickly.

2.6. Programme management

Responsibilities for decisions and monitoring of the implementation of the programme are clearly allocated and described in the SSC Statute and Quality Manual. The quality of the programme is ensured by the “Informatics Engineering Department”. Meetings with teachers are organized every month (“department meetings”). The “Multimedia Technologies Study Programme Committee” controls the implementation of the programme. This committee consists of the head of the Department, three teachers who are involved in the implementation of the programme, a student and an employer’s representative.

Information and data on the implementation of the Programme are regularly collected and analysed. Every year students are asked on their opinions and a survey of graduates is undertaken. Twice a year (each semester) teachers express their opinion on the programme and teaching methods. The Dean’s Office of Business and Technologies Faculty annually collect information about the financial needs of the programme for teaching resources. The same is done by the library for library resources needed by the programme.

The outcomes of internal and external evaluations of the programme are used in a suitable way for the improvement of the programme. Although the multimedia programme is relatively new, during the evaluated period all subjects had been evaluated, ten subjects had been updated. This also was reflected by the discussion with the graduates who felt the College was quick to respond to the needs of the labour market.

Social stakeholders are included sufficiently into the assessment processes of the Programme. Social stakeholders and students contribute to information used to improve the programme in various ways described in detail in the SER however the process of gathering input from the Social partners should be formalised, including reporting back to them on the actions taken on the basis of their feedback.

The internal quality assurance measures are effective and efficient. This is demonstrated in an impressive way by the highly positive opinion of interviewed companies on the skill level of graduates. Companies would be willing to employ more graduates as are available. The programme management is aware they lack a tool for the quick presentation of survey results and is looking for an improvement. Also a plan exists to periodically poll the opinion of graduates.

III. RECOMMENDATIONS

1. **Consider EQANIE European curriculum guidelines** in updating the curriculum.
2. ***The wording of the learning outcomes should be reviewed.*** All learning outcomes should be worded to use an appropriate verb after a phrase such as “A graduate from this programme should be able to” avoiding the use hard to measure words such as “understand”, “know” and “perceive”..
3. ***Project learning outcomes and implementation need enhancing.*** Although this is an applied bachelor’s programme, students need to demonstrate bachelor level abilities of critical thinking, analysis, evaluation etc.
4. Enhance the development of ***transferable skills*** such as team working, project-based learning and the ability to learn how to learn and update the description of subjects according to these changes. For example, enhancing teamworking skills were contained in the learning outcomes in only three subject-specific courses.
5. Include more critical analysis, thinking and discussion in the ***bachelor theses***. For example by providing a rationale, analysis and critical discussion of the decisions they took during the design and implementation of their software, and a reflection at the end on what they learned, what they might do different if approaching the problem again etc.
6. Introduce a formal process of ***gathering feedback each year***, for example in a forum where social partners can brainstorm and hear each other’s’ thoughts, which is formally documented and responded to, in order to ensure they are not e.g. reliant on a member of staff to pass on a comment to the relevant person for action.
7. ***Articulate a research strategy*** and an implementation plan, reviewing how to enhance the research culture, conduct seminars, deepen collaboration, bidding and publications etc.
8. The ***quality of WiFi*** should be improved as it was very poor in some areas.
9. The documentation should be updated to accurately reflect the library and IT resources used on the programme.

IV. SUMMARY

The *Multimedia Technologies* study programme was developed after conducting a market analysis and is being enhanced over time taking into account changing market needs. The competences are developed through defined learning outcomes, however the wording needs to be reviewed and qualities of higher level critical thinking / evaluation skills and transferable skills, need to be further developed in the students.

The review panel was pleased to see the appearance of the efforts by the College in collecting the feedback from the students and social partners however the process for gathering input from social partners should be formalised to ensure input is not lost, and that feedback is provided to partners on changes made as a result of their input. Social partners would also welcome more practical software development in teams.

The staff of the study programme are adequately qualified and they have close connections to the IT industry. This should be considered as a strength. The major concern, however, is related to the high teaching load of teaching staff, which certainly affects their ability to conduct research and development (R&D). This problem is also related to the financing of research which is very scarce as public R&D funding is targeted mainly to support fundamental research. A strategy to enhance the research culture going forward should be articulated.

The premises and equipment for studies are adequate, both in their size and quality. However, the quality of WiFi should be improved as it was poor or absent in some areas. The programme seems to be managed according to the standards and established procedures of the College, and the internal quality assurance measures are effective and efficient.

V. GENERAL ASSESSMENT

The study programme *Multimedia technologies* (state code – 653E14004) at Šiauliai State College is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	3
3.	Teaching staff	3
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	3
	Total:	18

*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. Liz Bacon
Grupės nariai: Team members:	Prof. Peeter Normak
	Prof. Robert Pucher
	Vilma Eidukynaitė
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