

### STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

# Šiaurės vakarų kolegijos

# MULTIMEDIJOS TECHNOLOGIJA STUDIJŲ PROGRAMOS (653E10004) VERTINIMO IŠVADOS

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# EVALUATION REPORT OF MULTIMEDIA TECHNOLOGY (653E10004) STUDY PROGRAMME

at North Lithuania College

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Išvados parengtos anglų kalba Report language - English

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

| Studijų programos pavadinimas                        | Multimedijos technologija                      |
|--|--|
| Valstybiniai kodai                                   | 653E10004                                      |
| Studijų sritis                                       | Technologijos mokslai                          |
| Studijų kryptis                                      | Informatikos inžinerija                        |
| Studijų programos rūšis                              | Koleginės studijos                             |
| Studijų pakopa                                       | Pirmoji  |
| Studijų forma (trukmė metais)                        | Nuolatinė (3), ištęstinė (4)                   |
| Studijų programos apimtis kreditais                  | 180  |
| Suteikiamas laipsnis ir (ar) profesinė kvalifikacija | Informatikos inžinerijos profesinis bakalauras |
| Studijų programos įregistravimo data                 | 2010-06-01                                     |

#### INFORMATION ON EVALUATED STUDY PROGRAMME

| Title of the study programme                        | Multimedia Technology                                   |
|---|---|
| State code  | 653E10004   |
| Study area  | Technology Sciences                                     |
| Study field   | Informatics engineering                                 |
| Kind 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 of the Informatics<br>Engineering |
| Date of registration of the study programme         | 2010-06-01  |

The Centre for Quality Assessment in Higher Education

Studijų kokybės vertinimo centras

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#### I. INTRODUCTION

Public institution Northern Lithuania College (*hereinafter NLC*) was established on 20<sup>th</sup>February, 2003 by reorganising the Northern Lithuania higher business school founded in 2001. The College runs the study programmes of social sciences (Event Business Management, Business Management, Economics of Financial Institutions, Law) and technological sciences (Computer Network Administration, Multimedia Technology).

Starting from 31<sup>st</sup> August, 2010 a new management structure of the NLC has been approved by forming new departments: Practical Training Centre, Career Centre and Department of Economics. The college has these management and autonomy institutions: General incorporator meeting, Director, Academic council and Student Representative.

Study programme Multimedia Technology (hereinafter MT SP) both in full and in part-time mode is conducted by the Department of Information technology (hereinafter Department of IT). Information technology division, Practical Training Centre, Study Quality Supervision Committee and other subdivisions are involved in realization and administration of SP. External assessment of MT SP never have been done before.

The Lithuanian Centre for Quality Assessment in Higher Education has invited five independent experts and one representative of students (*hereinafter called Expert Team*) to review and assess the higher education college type study (professional bachelor) programme *MULTIMEDIA TECHNOLOGY* (state code 653E10004, informatics engineering study field)

Assessment of MT SP was made in that order: first stage – analysis of information placed in self-evaluation report (*hereinafter SER*); second stage – visit to NLC.

After analysis of SER expert team have noticed that SER is constructed according to the requirements. The line up, responsibilities of the SER team members and schedule of team activities are presented in SER. However, the standard of SER translation to English was rather poor. For example, some terms used to describe the programme aims and learning outcomes in various pages of SER differ.

The Expert Team visited NLC on February 26, 2013.

First, the Expert Team met the administrative staff of the NLC. Study programme management, study programme finansing, stakeholders participation in study programme realisation issues were discussed in the time of meeting.

Next meeting with members of SER team was conducted. At this meeting the Expert Team was given clear and exhaustive answers to the questions concerning less uncovered issues in SER.

After that a meeting with 10 members of teaching staff took place.

The Expert team conducted also interwiews with students. The group consisted of 10 full-time and 2 part-time students, among them three 3rd-year undergraduates, five 2nd-year undegraduates, and one 1st-year undergraduate student. The Expert Team was familiarized with students' attitude towards the programme: the students expressed positive opinions about the study programme. Students have added also some remarks about issues which could be improved.

The Expert Team had possibility to observe various support services (classrooms, laboratories, computer services, library) as well as to familiarize with students' works made in the time of practical exercises of various subjects. Finally the Expert Team met ten representatives of graduates and potential future employers. They expressed positive attitude about the MT SP. At the conclusion of the visit, the Expert Team conducted a meeting with staff of NLC, introduced general remarks of the visit and highlighted some strengths and weaknesses of the programme.

#### II. PROGRAMME ANALYSIS

#### 1. Programme aims and learning outcomes

The programme aims and learning outcomes (hereinafter LO's) are well defined and clear. In general, programme aims and learning outcomes are publicly accessible. MT SP aims are published in the Open vocational information, counselling and guidance system (AIKOS), in the College website www.slk.lt, in the informative booklets which are presented in the various study events (study fairs, open lectures for pupils, outgoing lectures, etc.), in the academic service information system. Since September 2012 all members of the College academic community are using this system. During introductory study week the first year students have informative lectures where the curator of the programme and main lecturers thoroughly introduce the aims, LO's, content, career prospects of the study programme. Lecturers are obliged to introduce students with subject's aims and LO's at the start of the semester. The results of internal study quality inquiry show that most lecturers do introduce the LO's of study programme subjects. However, for the future Expert Team recommends the following: for the presentation of connection between SP aims, LO's and subjects' LO's the guidelines, which are presented in Methodology for Evaluation of Intended to Execute Study Programmes (Approved by Order No 1-01-157, 2011-11-28, of the Director of the Centre for Quality Assessment in Higher Education), should be used. These guidelines helps evaluators of SP easier find out connections between SP aims, SP LO's and subjects LO's.

SP aims and LO's are based on professional requirements, public needs and the needs of labour market. This conclusion could be based on results of association Infobalt major ICT sector survey (year 2011), on the analysis of some documents (Analysis of ICT specialists demand in Lithuania market, 2011; the order No 301, 2011-03-16, of Government of the Republic of Lithuania "Concerning Lithuanian information society development program in 2011-2019." This conclusion was confirmed by the stakeholders in the time of visit, also.

The programme aims and LO's are consistent with the type and level of studies and the level of qualifications offered. They match the Degree granting first cycle and integrated studies general requirements, Field regulation, Computer technology engineer training standard and NLC strategy.

The name of the programme, its learning outcomes, content and the qualifications offered are compatible with each other.

#### 2. Curriculum design

In general, the curriculum design meets legal requirements set by Lithuanian authorities. MT SP is studied in full-time (3years, 180 ECTS credits) and part-time (4 years, 180 ECTS credits) forms. Study plan structure:

- General subjects 15 ECTS credits;
- Study field subjects 156 ECTS credits;
- Optional subjects 9 ECTS credits.

Study subjects are stated gradually and consistently, no more than 7 subjects per term. Study load is divided into 30 ECTS credits per semester in full-time studies and 45 ECTS credits per year in part-time. Contact teaching span corresponds to Study field regulation requirements: 2408 hours in full-time studies and 872 hours in part-time.

MT SP includes 4 practices that have a total of 30 ECTS credits, 24 credits of which is for vocational activity. 12 ECTS credits are assigned for *Thesis (Final Project)* completion and defence. However the format of subjects' description does not match requirements set in "Methodology for evaluation of higher education study programmes", 2010-12-20, item 88. According to this item of mentioned document description of any subject must contain the intended learning outcomes and their evaluation criteria. In the MT SP subjects descriptions (SER, Annex 7.1.) there are only subjects LO's, but their evaluation criteria are absent. Instead of them only a formula of subject assessment system is presented (SER, Annex 7.1., subjects description item No 8). Also, in subjects' descriptions the table, where SP learning outcomes, subject learning outcomes, study methods and assessment methods should be connected, is absent.

Too much books in subjects' descriptions are presented as additional reading sources (4-11 books). As the subjects' descriptions besides additional reading sources have 4-8 basic references, 10-11 additional reading sources seems too much and forms heavy workload for students. 2-3 additional reading sources should be enough.

In general, study subjects are spread evenly, their themes are not repetitive. Theoretical subjects are synchronised with practical education. *Information Technology Practice* is performed after studying *Information and Communication Technologies* in the second semester of full-time (FT) studies and the third semester of part time studies (PT). *Introductory Practice* is performed after studying *Web System development* in the fourth (FT) or third (PT) semester. However, subjects "Programming" and "Web System Development" which content is connected with programming issues are foreseen to study in the same semester. According to Expert Team opinion should be reasonable to shift subject "Web System Development" to the subsequent semester after subject "Programming", because the topics of "Programming" are introductory topics of programming issues and topics of "Web System Development" are follow-up topics.

In general, the content and methods of most of the subjects are appropriate for the achievement of the intended learning outcomes. The methods described in descriptions of subjects (SER, Annex 7.1), are as traditional as innovative. For knowledge transference and cognitive skill development most frequently used study forms are: lectures, practice, seminars etc. They employ certain methods: theoretical lecture, case analysis (task modelling), design, case analysis and rationalization, task solving, exploratory discussion, individual research etc. Practical and cognitive skill formation is done by organising practical and laboratory assignments. These objectives are implemented by employing these methods: group and individual work, debates, discussions, project work, creative assignments, etc. However, more attention in the content of study field special subjects must be given to: interface design; client scripting; real time animation; computer games; multimedia security. The scope of the subject "Computer Architecture and Operating Systems" – 9 ECTS credits, seems to be too much for Multimedia Technology students. Topics connected with computer architecture seem fit more to Computer Network Administration SP students than to Multimedia Technology SP students. The scope of this subject could be reduced and free credits could be passed to special subjects of the study field group in the study plan. More project-oriented teaching methods must be implemented in special subjects of study field.

Students have expressed the opinion that subjects "Introduction to Sociology" and "Basics of Law" must be more dedicated to study aims. Expert Team agreed with this suggestion.

In general, the scope of the curriculum is sufficient to ensure learning outcomes. The content of the program reflects the latest achievements in science and technologies to sufficient extent.

However, curriculum design and synchronising of study subjects should be reviewed as also the content of some identified study subjects.

#### 3. Staff

The study programme is provided by staff meeting legal requirements. All teachers have a Master's or Doctoral degree. In 2011-2012 academic year 32.9% of study course subjects were lectured by doctors of science (Dr. S.Ramanauskaitė, Dr. D.Dervinis, Dr. A.Drukteinienė, Dr. R.Klevaitytė). More than half of study programme teachers have more than 3 year practical experience (in their subject field).

The qualifications of the teaching staff seem to be sufficient to implement the aims of the study program and achieve the intended learning outcomes. Teachers are participating in research and project activities and mobility programmes. In academic year 2011/2012 five teachers have visited foreign institutions.

However, too many members of teaching staff are part-time teachers (most of them are from Šiauliai University). Their research more or less is connected with activities in Šiauliai University and therefore is not related to the study programme being reviewed. Because of the big number of part-time teachers it is difficult to say that the number of the teaching staff is adequate to ensure learning outcomes. Expert Team recommends increase number of full-time permanent staff for stability and predictability of the programme.

The higher education institution creates conditions for the professional development of teaching staff necessary for the provision of the programme. Every academic year NLC organises qualification development seminars for lecturers; seminars' topics are aligned in regard to priority field areas. For example, during the analysed period 3 department lecturers participated at a seminar-consultation "ECTS implementation and issues" (Lect. R.Markevičienė, Vilnius University), 2 lecturers participated in the seminar "Preparing study programs: methodical recommendations to the quality assurance committees and lecturers" (Lect. D.Lepaitė, Vilnius University), 3 lecturers enhanced their general and specialized skills in "Systemic lecturer expertise development, seeking of educational innovation (EDUKOM)", 2 lecturers attended courses "Subject content preparation in Moodle environment" (lecturers – L.Giedrimienė, Siauliai University; R. Misiulienė, Northern Lithuania College).

Lecturers improve their competences by studying in doctoral studies. In 2011 three MT SP lecturers acquired a doctor of science degree: A. Drukteinienė, S. Ramanauskaitė, L.Kaklauskas. However, expert team stresses, that all above mentioned teachers are from Šiauliai University full-time teachers and only part-time teachers in NLC. Despite good qualifications teachers have,

they are not fully involved in NLC which threatens for the stability of the study programme quality.

#### 4. Facilities and learning resources

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

The teaching and learning equipment (laboratory and computer equipment, consumables) are adequate both in size and quality. NLC has 20 auditoriums (30 seats each on average) for studies, 2 of which are informatics (21 and 15 work spaces), 1 multimedia technology (25 work spaces), 1 computer network laboratory (17 work spaces), 1 computer architecture laboratory (19 work spaces), 1 photo/video laboratory, 1 sound recording studio. Students also use College Independent Study Centre, which has 40 work spaces for readers, 6 of which are computerised. There are two auditoriums with 75 seats each for joint lectures. In academic year of 2011-2012 the college had 17 full-time study groups and 13 part-time study groups. Full-time studies are held on workdays and part-time on weekends, once a month. Average number of MT students in one group is no higher than 16. So, even when anticipating student quantity growth and dividing them into groups and sub-groups, the number of work spaces in auditoriums will be sufficient.

NLC for MT programme needs from its own and European Union resources has implemented:

- 25 work spaces Multimedia technology laboratory which is provided with work stations HP Z400 (Intel Xeon 3,2 GHz, 6GB RAM, 1 TB HDD) with two 22" highresolution monitors and graphic tablets;
- Photo/Video studio with necessary lighting equipment, backgrounds and video fixation equipment;
- Sound recording studio with acoustically isolated room and technical and software equipment for recording;
- 6 spot Apple laboratory with Mac type personal computers and video processing software Final Cut Pro X.

The higher education institution has adequate arrangements for students' practice. NLC has signed 92 collaboration agreements with social partners in Lithuania; more than one third of those agreements are for students practice organising. MT SP students perform their practices in companies, which are involved in advertising, marketing, telecommunication, publishing, various medias.

Since 2012 MT SP students can perform their practice at the NLC Practical Teaching Centre. Here are all of the possibilities to assimilate the most modern and work market popular multimedia technologies. In the time of visit Expert Team has a possibility to acquaint with students works done in the time of practice.

In General, team of experts found that material recourses are of a very high quality. Every teaching room is equipped with modern and up to date equipment. Students are also satisfied with resources and positively stressed, that they have possibility to use and borrow equipment from NLC for they projects. Teaching materials (textbooks, books, periodical publications, databases) are adequate and accessible.

#### 5. Study process and student assessment

The admission requirements are well-founded. Since 2009 NLC is participating in General admission organised by Lithuanian higher education association for general admittance organising (LAMA BPO). In 2010-2011 during general admission to MT SP 12 state funded study places were granted (2010 – 1 place; 2011 – 11 places). In 2012 entrants to private higher educations institutions lost the possibility of getting state funded study places, however they were able to apply for study places with study scholarship. MT SP has 2 of such study places. Since 2010 MT SP has accepted 73 students in total.

The organisation of the study process ensures an adequate provision of the programme and the achievement of the learning outcomes. The total contact hours for each group comply with standard requirements: no less than 2400 hours in full-time studies and 700 hours in part-time studies. Lectures are held in NLC premises, virtual work spaces, Moodle environment. During practice students will have possibility to consult with NLC appointed practice supervisors (10 academic hours per week). Exam session lasts 4 weeks. 2-3 days for full-time and no less that 1 day for part-time students are allocated for exam preparation.

Students are encouraged to participate in research, artistic and applied research activities. They have possibility to participate in scientific student conferences, art projects, and competitions. Some of students final thesis in 2012/2013 academic year are planned to be based on ordered research.

Students have opportunities to participate in student mobility programmes. Departure criteria are well-founded. NLC have partner institutions in Italy, Latvia, Turkey, United Kingdom, Denmark. In 2011/12 academic year 4 students have studied in partner institutions. However more active participation in Erasmus programme should be achieved. Team of experts also found that there is no clear strategy of attracting incoming students from other countries. The NLC ensures the adequate level of academic and social support. Academic support is supplied by the Department of studies, Department executives, Carrere Centre, academic group tutors, teachers, librarian and other administration persons. Since 2010 study foundation has started to pay social scholarships motivated socially supported youth seeking higher education.

Students studying without scholarship can use the flexible paying system. Most advanced, most active students as well as orphans have a discount on study fees.

Student achievements in NLC are assessed using accumulative study result in point's assessment system. Students are informed about assessment system at the introductory lectures of the subjects. The assessment results lecturers present to students after exam or test (presentation is done individually for every student). The students have possibility to discuss the final assessment result. So, assessment system is clear. However, as it was mentioned earlier, LO's evaluation criteria must be included into the subjects' descriptions.

The first graduates of MT SP will finish their studies in June, 2013, so until this date there is no possibility to evaluate, whether the professional activities of graduates meet the MT SP providers expectations.

#### 6. Programme management

Responsibilities for decisions and monitoring of the implementation of the programme are clearly allocated. MT SP quality supervision committee (hereinafter Committee) is responsible for MT SP study aims realisation and MT SP quality supervision. Committee provides suggestions and recommendations for NLC administration, lecturers for quality development, methodical resources or subject content update. Committee is managed by head of IT Department Daiva Semeliūnienė.

Information and data on the implementation of the programme are regularly collected and analysed. Students can regularly assess study subjects and lecturing quality while participating in annual survey. Lecturers provide IT Department with suggestions for subject content update, literature list modification, update of study resources. Study process quality is monitored regularly by employing internal study quality research, applying activity control and self-control means (various surveys, lecture monitoring and discussion, open lectures, etc.). Activity quality assessment is determined by NLC implemented study quality policy. Main NLC performance indicators are defined in Quality standard and analysed in annual NLC activity reports (self-evaluation reports).

The internal quality assurance measures are effective and efficient, outcomes of evaluations of the programme are used for the improvement of the programme. Students confirmed that their suggestions were used to improve study programme.

The evaluation and improvement processes of SP involve stakeholders: representatives of employers, students and teachers are included into the Committee. Feedback from employers are gained during vocational practice and in the time of meetings with stakeholders. This was also confirmed by stakeholders during the visit

#### III. RECOMMENDATIONS

- 1. For the presentation of connection between SP aims, LO's and subjects' LO's the guidelines which are presented in Methodology for Evaluation of Intended to Execute Study Programmes (Approved by Order No 1-01-157, 2011-11-28, of the Director of the Centre for Quality Assessment in Higher Education) should be used.
- 2. Subjects descriptions should be corrected: subjects LO's evaluation criteria and the table where SP learning outcomes, subject learning outcomes, study methods and assessment methods are connected together should be included into subjects' descriptions; additional reading sources of subjects must be reviewed and their number should be lowered.
- 3. Subject Web System Development should be shifted to the subsequent semester after subject "Programming"
- 4. Content of subjects *Introduction of Sociology* and *Basics of Law* should be more oriented to multimedia technology.
- 5. More attention in the content of study field special subjects should be given to: interface design; client scripting; real time animation; computer games; multimedia security.
- 6. The scope of subject *Computer Architecture and Operating Systems* should be reduced and free credits should be passed to special subjects of the study field group in the study plan.
- 7. More project-oriented teaching methods should be implemented in special subjects of study field.
- 8. Number of full-time permanent staff should be increased for stability and predictability of the programme.
- 9. The means for the attraction of Erasmus incomming students should be implemented.

#### IV. SUMMARY

The students of study programme *Multimedia technology* of Northern Lithuania College (NLC) has a high demand in Šiauliai region and are supported by study programme stakeholders.

Purpose of MT study programme – to prepare qualified multimedia engineers – complies with main strategic aim of the NLC: in regard to challenges of knowledge society and technological expansion, constant changes in work market and consumer needs, to provide an opportunity for individuals to gain a higher education, a professional qualification and to encourage them to lifelong learning while seeking new competencies and qualifications.

The study programme aims and learning outcomes are well defined, clear, based on professional requirements, public needs and the needs of labour market, 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.

The curriculum design, in general, meets legal requirements set by Lithuaniain authorities, is quite rational and adequate to the intended learning outcomes. However, some subjects sequence in the study plan must be corrected. As far as the content of study field special subjects is concerned, more attention for the following topics should be provided: interface design; client scripting; real time animation; computer games; multimedia security. The scope of some subjects must be reduced and free credits should be passed to special subjects of the study field group in the study plan. In general, more project-oriented teaching methods should be implemented in special subjects of study field. Content of some general subjects should be more oriented to multimedia technology.

The qualification and practical experience of the staff is sufficient for the execution of the study programme. However, too many teaching staff members are part-time teachers. So, the number of full-time permanent staff must be increased in the interest of stability and predictability of the programme. Research activities of teaching staff should be more oriented to the Multimedia Technology study programme.

Multimedia Technology study programme facilities and learning resources are of a very good level. Up to date equipment is used in learning process and students are very satisfied of facilities. The study process is organized well. However, there are no incomming Erasmus students. Study programme management and quality assurance system are very good and effective.

#### V. GENERAL ASSESSMENT

The study programme *Multimedia Technology* (state code 653E10004) at North Lithuania College 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   | 3                          |
| 2.  | Curriculum design  | 2                          |
| 3.  | Staff  | 2                          |
| 4.  | Material resources   | 4                          |
| 5.  | Study process and assessment (student admission, study process, student support, achievement assessment) | 3                          |
| 6.  | Programme management (programme administration, internal quality assurance)                              | 4                          |
|     | Total:   | 18                         |

<sup>\*1 (</sup>unsatisfactory) - there are essential shortcomings that must be eliminated;

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<sup>2 (</sup>satisfactory) - meets the established minimum requirements, needs improvement;

<sup>3 (</sup>good) - the field develops systematically, has distinctive features;

<sup>4 (</sup>very good) - the field is exceptionally good.

#### IV. SANTRAUKA

Šiaurės Lietuvos kolegijos (ŠLK) studijų programos "Multimedijos technologija" studentai yra labai paklausūs Šiaulių regione ir juos remia studijų programos socialiniai partneriai.

Studijų programa "Multimedijos technologija", kuri skirta rengti kvalifikuotus multimedijos inžinierius, atitinka pagrindinį ŠLK strateginį tikslą: atsižvelgiant į žinių visuomenės ir technologinės plėtros iššūkius, nuolatinius darbo rinkos pokyčius ir vartotojų poreikius suteikti asmenims galimybę įgyti aukštąjį išsilavinimą, profesinę kvalifikaciją ir skatinti juos mokytis visą gyvenimą siekiant įgyti naujų gebėjimų ir kvalifikacijos.

Studijų programos tikslai ir studijų rezultatai yra tinkamai ir aiškiai apibrėžti pagal profesinius reikalavimus, visuomenės poreikius bei darbo rinkos poreikius, jie atitinka studijų rūšį ir lygį bei siūlomos kvalifikacijos lygį. Programos pavadinimas, studijų rezultatai, turinys ir siūlomos kvalifikacijos yra tarpusavyje suderinti.

Apskritai, programos sandara atitinka Lietuvos institucijų nustatytus teisinius reikalavimus, yra pakankamai racionali ir atitinka numatomus studijų rezultatus. Tačiau studijų plane reikia pataisyti kai kurių dalykų seką. Kalbant apie studijų krypties specialiųjų dalykų turinį, daugiau dėmesio reikėtų skirti šioms temoms: sąsajos projektavimui, klientų skriptams (angl. client scripting), animacijai realiuoju laiku, kompiuterių žaidimams, multimedijos saugumui. Kai kurių dalykų apimtis turi būti sumažinta, o laisvi kreditai perkelti studijų plane specialiesiems studijų krypties grupės dalykams. Apskritai, studijų krypties specialiuosiuose dalykuose reikėtų taikyti daugiau į projektus orientuotus mokymo metodus. Kai kurių bendrųjų dalykų turinys turėtų būti daugiau orientuotas į multimedijos technologijas.

Personalo kvalifikacija ir praktinė patirtis yra pakankama studijų programai vykdyti. Tačiau pernelyg daug dėstytojų dirba ne visu etatu. Todėl reikėtų padidinti visu etatu dirbančių dėstytojų skaičių, siekiant užtikrinti programos stabilumą ir nuspėjamumą. Personalo tyrimų veikla turėtų būti daugiau orientuota į multimedijos technologijų studijų programą.

Multimedijos technologijų studijų programos materialieji ir metodiniai ištekliai yra labai geri. Studijų procese naudojama šiuolaikinė įranga ir studentai yra labai patenkinti materialine baze. Studijų procesas organizuotas gerai. Tačiau nėra studentų, atvykstančių pagal "Erasmus" programą. Studijų programos vadyba ir kokybės užtikrinimo sistema yra labai gera ir veiksminga.

#### III. REKOMENDACIJOS

- 1. Norint nurodyti ryšį tarp studijų programos tikslų, studijų rezultatų ir dalykų studijų rezultatų reikėtų remtis gairėms, kurios pateiktos Ketinamos vykdyti studijų programos aprašo rengimo, jos išorinio vertinimo ir akreditavimo metodikoje (patvirtinta 2011-11-28 Studijų kokybės vertinimo centro direktoriaus įsakymu Nr. 1-01-157).
- 2. Reikėtų pataisyti dalykų aprašus: į dalykų aprašus reikėtų įtraukti studijų dalykų rezultatų vertinimo kriterijus ir lentelę, kurioje yra susieti studijų programos rezultatai, studijų dalykų rezultatai, studijų metodai ir studento pasiekimų vertinimo metodai; būtina peržiūrėti papildomą dalykų literatūros sąrašą ir sumažinti jos skaičių.
- 3. Dalyką "Žiniatinklio sistemų kūrimas" reikėtų perkelti į kitą semestrą po dalyko "Programavimas".
- 4. Dalykų "Sociologijos įvadas" ir "Teisės pagrindai" turinys turi būti daugiau orientuotas į multimedijos technologijas

- 5. Kalbant apie studijų krypties specialiųjų dalykų turinį daugiau dėmesio turėtų būti skiriama sąsajos projektavimui, klientų skriptams (angl. client scripting), animacijai realiu laiku, kompiuterių žaidimams, multimedijos saugumui.
- 6. Reikėtų sumažinti dalyko "Kompiuterio architektūra ir operacinės sistemos" apimtį, o laisvus kreditus perkelti studijų plane studijų krypties grupės specialiesiems dalykams.
- 7. Studijų krypties specialiuosiuose dalykuose reikėtų taikyti daugiau į projektus orientuotus mokymo metodus.
- 8. Siekiant užtikrinti programos stabilumą ir prognozavimą, reikėtų padidinti pilnu etatu dirbančių nuolatinių dėstytojų skaičių.
- 9. Turėtų būti įgyvendinamos priemonės, kurios pritrauktų studentus, atvykstančius pagal "Erasmus" programą.

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