STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

KAUNO TECHNOLOGIJOS UNIVERSITETO

STUDIJŲ PROGRAMOS *Valdymo technologijos* (621H66001)

VERTINIMO IŠVADOS

EVALUATION REPORT

OF *Control Technologies* (*621H66001*)

STUDY PROGRAMME

at ***KAUNAS UNIVERSITY OF TECHNOLOGY***

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Išvados parengtos anglų kalba
Report language - English

Vilnius
2014

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Valdymo technologijos***
Valstybinis kodas	621H66001
Studijų sritis	Technologijos mokslų studijų sritis
Studijų kryptis	Elektronikos ir elektros inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (2 metai)
Studijų programos apimtis kreditais	120 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Valdymo sistemų magistras
Studijų programos įregistravimo data	2007-02-19 Lietuvos Respublikos Švietimo ir Mokslo Ministro įsakymas Nr ISAK-225

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Control Technologies***
State code	621H66001
Study area	Technological sciences
Study field	Electronics and electrical engineering
Kind of the study programme	University Studies
Study cycle	Second
Study mode (length in years)	Full-time (2 years)
Volume of the study programme in credits	120 ECTS
Degree and (or) professional qualifications awarded	Master of Control Systems
Date of registration of the study programme	2007-02-19 Order of the Minister of Education and Science of the Republic of Lithuania No ISAK-225

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The Centre for Quality Assessment in Higher Education

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I. INTRODUCTION

Kaunas University of Technology (KTU) is one of the biggest universities in Lithuania with about 12000 students, 13 faculties and 73 departments. The mission of the university is to provide high level studies and research opportunities at international level suitable for a sustainable development and growth of the country. Kaunas University of Technology is an active member in many international organisations and participates regularly in a variety of scientific research and educational international programs.

The academic programme under evaluation – Master in Control Technologies (CT) is a programme offered by the Faculty of Electrical and Control Engineering (the Faculty was reorganized to the Faculty of Electrical and Electronics Engineering from January 2, 2014) and supervised by the Departments of "Electrical and Control Equipment", "Control Technologies" and "Process Control" (by the Department of Automation from January 2, 2014).

The CT programme is offered in Full-Time mode with duration of 2 year and it is designed with a structure based on the European directives for Higher Education (Bologna Process). It awards 30 ECTS per semester and 60 ECTS per year. This is a 2 years master programme with 120 ECTS. The last assessment of the CT programme was carried out by an external international expert team and took place in 2010. A summary of the conclusions of the assessment report is provided in the SER.

The external quality evaluation expert team for the present evaluation consists of Prof. dr. Laszlo T. Koczy (team leader), Prof. dr. Mart Tamre, Ass. prof. dr. Marios Kasinopoulos, Prof. dr. Roma Rinkevičienė, Dr. Artūras Klementavičius and Gražvydas Jakaitis (members). The present evaluation took place in two phases, a remote study of the Self Evaluation Report (SER) and an on-site visit to the university. The on-site visit took place from the 23 February to 5 March 2014 and the visit to Kaunas University of Technology for the Master programme Control Technologies took place on the 26th of February 2014.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The academic content of the programme consists of the following 4 modules: Intelligent Control Equipment, Mechatronics Systems, Power Control and Control Systems plus certain electives, mostly from other engineering fields. The programme has a deepening character and aims to strengthen the employability of the graduates and provide also the appropriate research foundations to those willing to continue with doctoral studies.

The programme aims and learning outcomes are well defined and clearly stated. As it is written in the SER, the main aim of the programme is to provide knowledge and skills in the field of control technologies giving more emphasis in the area of the 4 modules mentioned above. An important goal of the programme as it is stated is to appropriately prepare students for the third cycle studies. Similarly the Learning Outcomes (LO) of the programme are presented in the SER table 2.1. The LO of each subject are presented and clearly shown in the SER appendix 3.1, as well as the links between the subjects and programme LO. The subjects LO satisfy all requirements of the programme LO. However some of the subjects LO are not appropriately written and could be revised. They just describe main points of the content of the subject (example most LO in page A3.1- 48) and not the abilities expected by students on the successful completion of the subject like the example in A3.1- 44. Nevertheless, detailed information regarding the programme and subjects LO appears in the webpage of the CT programme, which is publicly accessible and is considered as a very good implementation by the Reviewers.

The results of a survey among those who have graduated from the CT study programme have shown an increasing demand of specialists of the CT programme. From another survey among CT programme graduates was shown that 75% of the graduates work in the industry and the 70% (of the graduates) work in their study field. From the rest about 6% continue for doctoral studies. The programme LO satisfies the academic and professional requirements very well as well as the needs of the labor market. This was discussed and confirmed by the employers and alumni during the meetings on the site visit.

According to information provided by the SER the Master programme Control Technologies was initially supervised by the three departments: Electrical and Control Equipment, Control

Technologies and the Process Control, but from the 2 January 2014 it is supervised by only the Department of Automation.

The fact that 80 % of the CT programme students are coming from Kaunas University of Technology shows that the Kaunas bachelor graduates are confident with this programme. The reason why more students from other universities do not apply for this programme is, as it was explained by students at the visit, the fact that in general Lithuanian students prefer to study close to their living places. It is noted that the course is given also successfully in English for foreign full time and Erasmus students. This measure is very much appreciated and is expected to increase soon the number of foreign incoming students.

2. Curriculum design

According to the SER the Curriculum Design (CD) complies with the national local legislation and the local regulations for the master programmes. More specifically, the total volume of the academic and individual work hours of the study subjects and the respective volume of the individual study subjects conform to the legal acts of the University Academic Regulations. The main characteristics of the academic programme are that the CT programme has duration of 2 years (4 semesters) with 120 ECTS, the compulsory subjects do not exceed 5 and the programme foresees 1 thesis project. There are also elective subjects offered by the Faculty of Electrical and Control Engineering and students can take also free electives from their own or other faculties of the university. The number of subjects per semester is 5 making in total 30 ECTS per semester.

From the detailed information about the subjects provided in SER Appendix 3.1 the experts may verify that the content of the subjects and/or modules are consistent with the type and level of the studies. The subjects cover at a satisfactory level all engineering fields proposed by the programme and include theoretical lectures which account for about 60% of the programme, class work and laboratory work which account for about 40%. It is estimated that this distribution of time between theoretical and practical work is appropriate and it is close to the international practice. One weakness noted is that in many cases the reference books proposed to some subjects are quite old ones (for example in appendix A3.1 page 104, and 109). A renewal of the reference books is proposed in collaboration with the academic staff.

In Appendix 3.1 there is a detailed list of the subjects provided with information about the syllabus, the assessment methodology, references and grading system. From the information given it is estimated that the subjects, contents and methods proposed are suitable for the achievement of the target LO.

The content of the programme reflects the latest achievement in science and technologies at a very good level. This has been seen during the visits in the laboratories and confirmed by the employers and alumni during the meetings with them. In spite of the negative comments of the previous evaluation committee about the inclusion of 4 modules in the programme, this committee believes that the presence of these 4 modules proved its purpose and increased the employment perspective of the graduates and it is one of the reasons of this programmes success. This has been confirmed by the alumni and the employers.

3. Staff

The staff providing the study programme meets all legal requirements. The composition of the staff consists of 9 professors, 16 associated professors, 3 lecturers with PhD and 2 with MSc, which satisfies the legal requirements. More specifically the Order of the Ministry of Education and Science requires that not less than 80% should be holders of doctoral degrees and not less than 20% of subjects from main subject field should be provided by professors. Both criteria are satisfied.

From the information provided in the CV's presented in Appendix 3.3, it may be seen that the qualifications of the staff conform to the Description of the requirements for Master programmes. The professors and associate professors teaching the main subjects have a professional experience of more than 10 years and all the professors and certain associated professors are involved in the third cycle process. This shows that the staff qualifications are adequate to successfully ensure the programme Learning Outcomes.

From the information provided by the staff the contact hours during teaching periods are about 14 hours per week. From the Reviewers perspective, this load is rather high and does not provide enough time for staff to do research work and publications. If possible, it is recommended that the teaching load of the staff would be decreased.

The institution supports the professional development of the teaching staff by organising courses, seminars, and other similar events. From the information provided by the staff during the on-site meetings it was seen that only 2 members of staff have participated in Erasmus exchanges. Some

weaknesses have been noted also regarding the international mobility of the staff in general and more specifically in the participation in EU research projects and publications like “IEEE Transactions series journals and IEEE world congresses". However from the information provided by the SER, the Reviewers noted that a small number of staff participate as partners in international research programs and are members of international organisations, of editorial boards and evaluation committees. These activities are very important, but taking in account the number of staff and the number of partnerships the evaluators, the expert team believes that the total international mobility and publications of the staff could be increased.

It is also added that the presence of foreign visiting academic staff is not sufficient. Although there are visiting lecturers from various industrial companies like *Siemens Osakeyhtio Lithuanian Branch, Axis Industries* and others, the presence of international university lecturers giving specialised courses to local students is not good enough and could be improved. There are very good opportunities for staff exchanges in the framework of Erasmus program.

It was also noted that some employers experienced graduates’ lack of team work skills. It is proposed to staff to consider this comment by employers and adapt their teaching methods accordingly. For example, increase the group work for students in laboratory experiments and in projects.

4. Facilities and learning resources

According to the information provided by the SER the Classrooms (17), Laboratories (12) and computer classes (2) are adequate in number, size and quality and fully meet the study requirements. From the visit to the various Laboratories the evaluators saw that the available equipment is of high quality and suitable for the needs of the programme. The evaluating team saw a large number of very modern Programmable Logic Controllers (PLC) from different important companies in the field, like from Siemens and Festo. This equipment has been provided by the free of charge companies and these resources are fully exploited. The university organises training courses obtaining in this way additional funding. It is noted however that certain computers are quite old and it is suggested to be replaced in the future. Nevertheless the Reviewers can verify that the rest of the learning facilities are more than enough to achieve the learning outcomes of this particular programme. As regards of the available software, it is good

and no special needs have been noted at present. However as the technology in this field changes quickly, it is advised to follow up and update the software needs in the next coming years.

The university makes available to students the central library and subsidiary libraries in the Faculties. From the visit on-site the evaluators saw that the library provides to students a rich variety of books, textbooks, periodical publications and databases and the electronic catalogues are accessible from home. For example the library offers electronic access to major scientific data bases like IEEE Explorer and Springer Link. The number of printed books and periodicals although satisfactory could be improved. As regards the references books proposed to students some of them are quite old. (E.g. some of the books in appendix A3.1, on pages 104 and 109.). This should be corrected (the books exchanged) because most of the subjects of the programme deal with a fast changing technology.

It could be added finally that students have easy access in printing and copying or scanning facilities as well as in computers rooms with suitable software. During the meeting with students almost all of them expressed their great satisfaction for all the facilities and learning resources they have available.

5. Study process and student assessment

The admission requirements to the programme are analytically and clearly explained. The admission regulations for the second cycle programmes are published in the university website and the admission assessment is organised according to the students' admission rules and is carried out by the University Selection Committee. The assessment consists of examination of the average mark of the bachelor studies with a weight factor 0.8 and the scientific activities of the candidates with a weight factor 0.2. Students should be graduates of Electrical Eng., Electronic Eng., Informatics Eng. or other related area. The ranked competition results are announced in the website of the university. The examination of applications for admission of applicants from foreign universities, as explained during the site visits is done case by case

It can be seen that the admission process applied is transparent and it ensures a high quality of the entrant Bachelor graduates. This is shown in table 2.11 showing the competition rank of admitted students from 2008 to 2012. Information about the CT programme is presented in the universities webpage level.

The students are very satisfied with the study process and their study programme in general. No complains or suggestions for improvement were given regarding the study programme or assessment methods. They are particularly satisfied from the fact that the academic programme

is adapted in a way to give them the possibility to work and study at the same time. Although they do not have enough free time because they work, they have easy access to laboratories, computer rooms and libraries during and after universities hours.

The Master thesis of students is often related to the local industry and for some students is directly related with their working places. Employers and other stakeholders are present during the assessment of the final thesis by students. This is very good and should be encouraged. Unfortunately there is a very limited number of students interested for doctoral studies although as it can be seen from the final thesis subjects some of the proposed projects are research oriented and suitable for further 3rd cycle research. The relationship between students and teachers is excellent. This is very positive because it gives the possibility to students and staff to have fruitful discussions about the study programme and study process and to overcome possible problems.
The presence of foreign students in the programme from EU (Belgium) and third world countries (India) is a positive step towards the internationalisation of the programme. The fact that the courses within their programme are given in English is a serious advantage and gives the possibility for attracting more students in the future.

On the other hand, the number of Erasmus outgoing students is rather low. During the meeting with students it was clearly said that most of the students do not go abroad although they would like to do so because they work and cannot leave their jobs. On the contrary it was seen that there were some foreign students from India and one from Belgium following a programme given in English language. The fact that there is a programme offered in English language is a big advantage and creates very good opportunities to increase in the future the number of incoming students from Europe and third world countries.

6. Programme management

The responsibilities for the implementation of the CT programme are clearly described and appropriately allocated. According to information provided by SER the administration of the programme is under the responsibility of the Vice Rector for Studies assisted by the Academic Department. The responsibilities for specific tasks like the innovation and improvement of the

programme are given to the Faculty Study Programme Committee (SPC) which consists of 10 members and the chairman is the Dean of the Faculty. The highest Institution of the faculty academic self-governance is the Faculty Council consisting of 17 members. This was elected in 2011 and includes faculty employees, students and one employer‘s representative. The members of the council are responsible for the programme organisation. We may conclude finally that the implementation of the programme is under the responsibility of the SPD which collaborates with the University Senate Studies Committee, the Academic Departments and finally with the Faculty Council. We may see that in general the responsibility for the implementation of the programme is given to a variety of bodies which include students and staff.

According to the information provided by the SER the university academic information system exists for collecting the data and for the management of the study programme. The data collected are mainly related to the final degree projects, statistics for mobility of students and teachers, student’s academic records, etc. These data are analysed and used for quality improvement activities. These data are also available in the university webpage

The internal quality assurance system of the programme is based on the Internal Study Quality Assurance System (ISQAS) approved by the university. According to information provided by the SER the content of many programme subjects has been improved following suggestions to staff of the social partners. Some specific examples have been given in the SER (page 29). This is good practice that should be continued. It shows also that the involvement of some stakeholders was very efficient.

The programme committee improved the quality of the programme using the student’s feedback regarding the subjects taught, their teacher’s performance and other information about the university. The answers of the student questionnaires are discussed in the meetings of the various faculty committees and appropriate actions are taken. It is noted that in the last questionnaires the students assessed positively the studies content, the teaching methods, the teachers’ and students’ communication and collaboration.

The outcomes of the last external assessment were seriously taken in consideration and the appropriate committees and staff tried successfully to eliminate or at least minimise the noted weaknesses. As a result of the employment of new younger staff the average age of teachers decreased from 52.3 years to 47.3. The dropout decreased from 30% to 18%, the number of

foreign students coming for full time studies was increased and the participation of teachers in research projects was also improved. However there are some weaknesses for which there is room for improvement. The expert team found that positive steps were taken regarding the incoming number of foreign students. As it was stated, 11 students from foreign countries are studying the full Control Technologies parallel programme in English. There were also students from ERASMUS who studied this programme for one semester. Nevertheless the overall internationalisation of this particular programme should still be continuously improved.

The number of outgoing Erasmus students is not satisfactory, the number of foreign incoming and outgoing academic teachers is quite low and also there is not enough international collaboration in educational programs like IP (Intensive Programme), Tempus and others. The same applies for the collaboration in international research projects. It is proposed to improve and increase the overall marketing activities like distribution of printing information leaflets and the participation in international educational fairs.

Another point to be noted is that the formal participation of employers in the design of the programme is weak. Although the great majority of employers were satisfied with the acquired skills of the graduates, during the meeting with them it was said that no one participated in the formulation of the learning outcomes and in general they do not participate in any university committee. This conclusion was made based by the discussions the experts had with the social partners that attended this meeting.

There was only one exception with the representative of Siemens. A more active participation of the employers in the programme design and in the proposal of final projects would be more beneficial for the employability of the graduates.

The staff load of the programme is another weak point as it was mentioned previously. It was agreed by all that the staff was overloaded and in spite of this the staff offer extra courses in English language for foreign students. The management committees should consider this problem and ask for more funding for employment of more staff. The situation as it is now affects the professional development of the staff, the performance of their work and the overall quality of the learning outcomes.

III. RECOMMENDATIONS

1. The number of 24 learning outcomes for this Master programme is quite high. A more comprehensive list with about 10 learning outcomes would be more appropriate.
2. The reference books of some subjects should be replaced with new ones or latest editions of the existing books.
3. The involvement of stakeholders (a) in the design of the programme learning outcomes, (b) in the formulation of the contents of the subjects and (c) in general in the follow-up of the programme should be increased. The employers should participate more actively in the proposal of final projects to the students.
4. In order to ensure the renewal of academic staff and expansion of the programme more students should be encouraged to continue their studies for a PhD and to choose appropriate thesis projects.
5. Make an effort to participate in more local and high level international research and educational projects. This will considerably increase mobility and publications. In this purpose it is recommended that the university should organize more often information seminars on Erasmus + and Horizon 2020 programs and distribute appropriate printed or electronic information to staff and students.
6. Give more emphasis in team work because some employers and alumni noticed that graduates lack of team work skills.
7. Increase the marketing activities of the programme. For example print and distribute information leaflets in other institutions locally and abroad, participate in international educational fairs, organize or participate in international weeks organized by various universities etc.

IV. SUMMARY

The Master programme Control Technologies offered by Kaunas University of Technology at the Kaunas campus is a well-designed and successfully running programme.

The academic content of the programme consists of the following 4 modules: Intelligent Control Equipment, Mechatronics Systems, Power Control and Control Systems plus certain electives, mostly from other engineering fields. The programme has a deepening character and aims to

strengthen the employability of the graduates and provide also the appropriate research foundations to those planning to further continue their education with doctoral studies.
The programme learning outcomes are clearly stated and are based on European directives. The subjects learning outcomes are analytically described and comply with the programme learning outcomes. However it is suggested to decrease the total number (24) of programme learning outcomes without changing the target aims of the programme. Detailed information regarding the programme and subjects learning outcomes appears in the web-page of the CT Programme.

The Curriculum Design (CD) complies very well with the national local legislation and the local regulations for the master programs. From the detailed information about the subjects provided it may be verified that the content of the subjects and/or modules are consistent with the type and level of the studies. It may be added that the employers are very satisfied from the skills acquired by the graduates. This shows that the proposed curriculum design is appropriate. One weakness noted is that in many cases the reference books proposed for some subjects are mainly old ones (for example in Appendix A3.1, on pages 104, and 109).

The qualifications of the staff are adequate to ensure successfully the target learning outcomes and their composition satisfies all legal requirements. From the information provided by the staff the contact hours during teaching periods are about 14 hours per week. This load is high and does not provide enough time to staff for research work and publications. The high load is rather due to the fact that the staff offers additional lessons in English language for the foreign students. This is very much appreciated. The staff exchanges and international mobility of the staff in general is quite low and it is due to lack of motivation and lack of time.

During the on-site visit the evaluation expert team has verified that the learning facilities and laboratory equipment available is of high quality and suitable for the needs of the programme. This equipment has been provided by companies and these resources are fully and efficiently exploited. The university organises training courses obtaining in this way additional funding. It is noted however that some of the computers are old and they are suggested to be replaced. The library offers electronic access to major scientific data bases (e.g. IEEE Explore and Springer Link). The number of printed books and periodicals although satisfactory could be improved. Nevertheless, generally the students are very satisfied with the facilities.

The admission requirements to the programme are analytically and clearly explained. The whole admission process applied is transparent and it ensures a high quality of entrant Bachelor graduates. The students declared they had not met any serious problems so far and that they were very satisfied with their studies. Although the total number of students is rather low it the presence of foreign students taught in English language is noted. This will help very much with the internationalisation of the programme and with the increase of exchange students under the Erasmus programme.

The responsibilities for the implementation of the CT programme are clearly described and appropriately allocated. The responsibilities for specific tasks like the innovation and improvement of the programme are given to the faculty Study Programme Committee (SPC). As regards to the data collected for monitoring of the programme, these are mainly related to the final degree projects, statistics for mobility of students and teachers, students' academic records, etc. These data are analysed by the SPC, used for quality improvement activities and are also available in the university web-page. The overall policy and activities regarding the distribution of information related to the programme locally and abroad are insufficient. The marketing activities can be improved by participation for example in international educational fairs, and distribution of printed appropriate material within the University. Based on what the experts found analyzing the SER and having discussions with the stakeholders, the formal and active participation of the employers in the design of the programme is negligible. The staff load is quite high and affects the quality of the programme. The management committees could make an effort to find further funding in order to increase the number of staff members.

V. GENERAL ASSESSMENT

The study programme Control Technologies (state code – 621H66001) at Kaunas University of Technology 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	4
3.	Staff	3
4.	Material resources	4
5.	Study process and assessment (student admission, study process student support, achievement assessment)	4
6.	Programme management (programme administration, internal quality assurance)	3
	Total:	**22**

*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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Santraukos vertimas iš anglų kalbos

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V. APIBENDRINAMASIS ĮVERTINIMAS

Kauno technologijų universiteto studijų programa *Valdymo technologijos* (valstybinis kodas – 621H66001) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	4
2.	Programos sandara	4
3.	Personalas	3
4.	Materialieji ištekliai	4
5.	Studijų eiga ir jos vertinimas	4
6.	Programos vadyba	3
	Iš viso:	**22**

* 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

Kauno technologijos universitete siūloma valdymo technologijos magistro programa yra puikiai struktūrizuota ir sėkmingai vykdoma.

Programos akademinį turinį sudaro šie keturi moduliai: Intelektualių valdymo sistemų, Mechatroninių sistemų, Procesų valdymo ir Valdymo sistemų moduliai, taip pat kai kurie pasirenkamieji dalykai, daugiausia iš kitų inžinerinių sričių. Programa išsamiai nagrinėja savo sritį, jos tikslas – didinti įdarbinamų absolventų skaičių, taip pat suteikti atitinkamus mokslinių tyrimų pagrindus planuojantiems toliau tęsti mokslus doktorantūroje.
Programos studijų rezultatai yra aiškiai išreikšti ir paremti Europos direktyvomis. Dalykų studijų rezultatai analitiškai apibrėžti ir atitinka programos studijų rezultatus. Tačiau siūloma mažinti numatomų programos studijų rezultatų skaičių (24) nepakeičiant programos pagrindinių tikslų. Išsami informacija apie programą ir dalykų studijų rezultatus pateikiama valdymo technologijų programos tinklalapyje.

Programos sandara (PS) puikiai atitinka nacionalinius vietos įstatymus ir reglamentus, susijusius su magistro programomis. Turėdami išsamią informaciją apie studijų dalykus, galime patvirtinti, kad studijų dalykų ir (arba) modulių turinys atitinka studijų tipą ir lygį. Galime pridėti, kad darbdaviai yra labai patenkinti absolventų turimais įgūdžiais. Tai parodo, kad siūloma programos sandara yra tinkama. Viena pastebėta silpnybė – daugeliu atveju kai kuriuose dalykuose nurodoma informacinė literatūra yra daugiausiai pasenusi (pavyzdžiui, A3.1 priede, 104 ir 109 p.).

Personalo kvalifikacija yra tinkama numatomiems studijų rezultatams sėkmingai pasiekti, o personalo sudėtis atitinka visus teisinius reikalavimus. Iš personalo pateiktos informacijos matome, kad kontaktinės valandos per dėstymo laikotarpius buvo apie 14 val. per savaitę. Tai yra didelis krūvis ir dėl to personalas neturi pakankamai laiko moksliniams tyrimams vykdyti bei publikacijoms rašyti. Didelis krūvis atsiranda daugiausiai dėl to, kad personalas dėsto papildomas paskaitas anglų kalba studentams iš užsienio. Šį faktą vertiname labai palankiai. Personalo mainų programos ir tarptautinis personalo judumas apskritai yra gana mažas, jį lemia motyvacijos ir laiko trūkumas.

Lankydamasi universitete vertinimo ekspertų grupė patvirtino, kad mokymosi sąlygos ir turima laboratorijų įranga yra labai kokybiška ir tinkama programos poreikiams. Šią įrangą suteikė bendrovės ir ji yra visiškai ir efektyviai išnaudojama. Universitetas organizuoja mokymo kursus, tokiu būdu užsidirbdamas papildomą finansavimą. Tačiau pastebima, kad kai kurie kompiuteriai yra pasenę, juos siūloma keisti. Bibliotekoje teikiama elektroninė prieiga prie pagrindinių mokslinių duomenų bazių (pvz., „IEEE Explore“ ir „Springer Link“). Spausdintinių knygų ir periodinių leidinių skaičius, nors ir yra pakankamas, tačiau galėtų būti dar labiau didinamas. Tačiau iš esmės studentai yra labai patenkinti materialiniais ištekliais.

Priėmimo į programą reikalavimai yra išsamiai ir aiškiai apibrėžti. Apskritai vykdomas priėmimo procesas yra skaidrus ir užtikrina aukštą stojančiųjų bakalauro absolventų lygį. Studentai nurodė, kad jie kol kas nesusidūrė su jokiomis rimtomis problemomis ir kad jie yra labai patenkinti savo studijomis. Nors bendras studijuojančiųjų skaičius yra gana mažas, atkreipiamas dėmesys į tai, kad anglų kalba studijuoja ir studentai iš užsienio. Tai labai skatina programos internacionalizaciją ir prisideda prie tarptautinių mainų programų studentų skaičiaus didinimo („Erasmus“ programa).

Atsakomybė už Valdymo technologijų programos įgyvendinimą yra aiškiai nustatyta ir atitinkamai paskirstyta. Atsakomybė už konkrečias užduotis, pavyzdžiui, programos inovacijos ir tobulinimas, perleidžiama fakulteto Studijų programos komitetui (SPK). Kalbant apie duomenis, gaunamus per programos stebėseną, tai jie daugiausiai susiję su baigiamaisiais projektais, studentų ir dėstytojų judumo statistika, studentų akademiniais pasiekimais ir kt. SPK analizuoja tokius duomenis, naudoja juos kokybės gerinimo veiklai ir taip pat ją pateikia universiteto tinklalapyje. Apskritai informacijos apie programą platinimo politika bei veikla šalyje ir užsienyje yra nepakankama. Rinkodarą reikėtų tobulinti dalyvaujant, pavyzdžiui, tarptautinėse aukštojo mokslo mugėse ir platinant atitinkamą spausdintinę medžiagą pačiame universitete. Remiantis tuo, ką nustatė ekspertai, analizuodami savianalizės suvestinę ir per pokalbius su socialiniais dalininkais, formalus ir aktyvus darbdavių dalyvavimas sudarant programą yra nežymus. Personalo darbo krūvis yra gana didelis, jis turi įtakos programos kokybei. Vadybos komitetai galėtų siekti gauti daugiau finansavimo personalo narių skaičiui didinti.

III. REKOMENDACIJOS

8. Šiai magistro studijų programai nustatyti 24 studijų rezultatai yra per daug. Išsamus sąrašas su maždaug 10 studijų rezultatų būtų tinkamesnis.
9. Kai kurių studijų dalykų vadovėliai turėtų būti pakeisti naujais arba naujausiais turimų knygų leidimais.
10. Reikėtų skatinti socialinių dalininkų dalyvavimą, (a) formuojant programos studijų rezultatus, (b) sudarant studijų dalykų turinį, ir (c) apskritai gerinti jų domėjimąsi programa. Darbdaviai turėtų aktyviau dalyvauti siūlydami studentams baigiamuosius projektus.
11. Siekiant užtikrinti akademinio personalo atnaujinimą ir programos plėtrą, reikėtų daugiau studentų skatinti tęsti doktorantūros studijas ir pasirinkti atitinkamus baigiamojo darbo projektus.
12. Reikėtų stengtis aktyviau dalyvauti vietos ir aukšto lygio tarptautiniuose mokslinių tyrimų bei švietimo projektuose. Tai reikšmingai padidintų judumą ir publikuojamų leidinių skaičių. Šiuo tikslu rekomenduojame universitetui dažniau organizuoti informacinius seminarus apie „Erasmus+“ ir „Horizon 2020“ programas bei platinti atitinkamą spausdintinę ar elektroninę informaciją personalui ir studentams.
13. Vertėtų labiau akcentuoti darbą komandoje, nes kai kurie darbdaviai ir buvę studentai pastebėjo, kad absolventams trūksta komandinio darbo įgūdžių.

14. Reikėtų aktyviau vykdyti programos rinkodarą. Pavyzdžiui, išleisti ir platinti informacinius lankstinukus kitose vietinėse ir užsienio institucijose, dalyvauti tarptautinėse švietimo mugėse, organizuoti ar dalyvauti tarptautinėse skirtingų universitetų organizuojamose savaitėse ir kt.

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