

### STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

# Šiaulių valstybinės kolegijos

# APLINKOS APSAUGOS STUDIJŲ PROGRAMOS (65304T101, 653H17003) VERTINIMO IŠVADOS

EVALUATION REPORT
OF ENVIRONMENTAL PROTECTION (65304T101, 653H17003)

## **STUDY PROGRAMME**

at Šiauliai State College

Grupės vadovas: Team Leader: Prof. David Eastwood

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Išvados parengtos anglų kalba Report language - English

### DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	Aplinkos apsauga
Valstybinis kodas	65304T101, 653H17003
Studijų sritis	Technologijos mokslų
Studijų kryptis	Bendroji 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	Aplinkos inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	2002 m. rugpjūčio 30 d. Švietimo ir mokslo ministro įsakymu Nr. ISAK – 1515

#### INFORMATION ON EVALUATED STUDY PROGRAMME

Name of the study programme	Environmental Protection		
State code	65304T101, 653H17003		
Study area	Technological Sciences		
Study field	General Engineering		
Kind of the study programme	College Studies		
Level of studies	First		
Study mode (length in years)	Full-time (3), part-time (4)		
Scope of the study programme in credits	180		
Degree and (or) professional qualifications awarded	Professional Bachelor of Environmental Engineering		
Date of registration of the study programme	30 of August 2002, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. ISAK – 1515		

The Centre for Quality Assessment in Higher Education

Studijų kokybės vertinimo centras

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#### I. INTRODUCTION

The procedures of the external evaluation of Professional Bachelor study programme *Environmental Protection* (hereafter, the programme) at Šiauliai State College (hereafter, the College; SSC) were initiated by the Centre for Quality Assessment in Higher Education of Lithuania (hereafter, CQAHE), nominating the external evaluation peer group formed by the head, professor David Eastwood (University of Ulster, Ireland), professor Maris Klavins (University of Latvia, Latvia), professor Dietwald Gruehn (Dortmund University of Technology, Germany), Lina Šleinotaitė – Budrienė, employer representative (Lithuania) and Gražvydas Jakaitis, student representative (Vilnius Gediminas Technical University, Lithuania).

For the evaluation of the study programme, the documents, regulating evaluation were used (Procedure of the External Evaluation and Accreditation of Study Programmes, Methodology for Evaluation of Higher Education Study Programmes, General Requirements of the First Degree and Integrated Study Programmes).

The basis for the evaluation of the study programme is the Self-Evaluation Report (hereafter, SER), written in October 2012, its annexes and the site visit of the expert group to the SSC on 28 February 2013. Additional documents were presented and reviewed during the visit day<sup>1</sup>. The visit incorporated all required meetings with different groups: the extensive administrative staff, not only from the Faculty of Business and Technology Department of the Environmental and Civil Engineering, that oversees the programme, but also from other subdivisions, responsible for academic mobility and project management, study records, quality management, student admission, career and finance; staff responsible for preparing the self-evaluation documents, teaching staff, students of different types (full-time, part-time) and years of study, graduates and employers. The expert group evaluated various support services (classrooms, laboratories, library, computer facilities), examined students' final works, and other materials. After the expert group discussions, additional preparations of conclusions and remarks, preliminary general conclusions of the visit were presented. After the visit, experts met to discuss and agree the content of the report, which represents the expert team consensual views.

The *Environmental Protection* study programme was approved and registered following the order of the Minister of Education and Science of Lithuanian Republic on 30 August 2002. It is the only study programme of General Engineering study field pursued at SSC.

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<sup>&</sup>lt;sup>1</sup> Šiauliai State College Programme for Scientific Potential Improvement (2012-2015) adopted by Academic Council decision No. ATN – 25 on the 23<sup>d</sup> of March 2012.

The first evaluation of the study programme by a CQAHE team of experts was conducted in 2006. Previous evaluation recommendations already implemented, or being implemented include the study programme being adjusted according to General Regulations for Technological Science (engineering) Studies requirements. Evident steps towards attracting more teachers with scientific degrees to the study programme have been taken. In the period 2011-2012, 2 doctors of science were invited to deliver fundamental engineering subjects; in 2012, 1 PhD lecturer joined the programme through public contest, and a further 1 plans to defend a doctoral scientific degree in 2013-2014. Also, within the framework of Programme for Scientific Potential Improvement (2012-2015), SSC plans to allocate finance to further increase the number of teachning staff entering PhD studies by 20 % (taking 2011 as the reference year).

Current international external evaluation of the study programme is being undertaken for the first time. The College SER includes genuine evaluation, rather than simple description, including strengths and weaknesses. This strengths and weaknesses analysis appear to be open, honest and sound, with the SER group displaying their ability to identify and demonstrate problems, thus demonstrating their self-confidence in their programme. However, for future self-evaluations, it is recommended that the self-evaluation group should include additional representation from employers, who are not also directly employed on the programme, and alumni, both groups of which were very active and reflective during the evaluation visit interviews.

#### II. PROGRAMME ANALYSIS

#### 1. Programme aims and learning outcomes

As described in the SER, the main aim of the Professional Bachelor *Environmental Protection* study programme is to prepare environmental engineering specialists capable of *evaluating and addressing global, regional, local environmental problems*. The programme aims also set out quite ambitious goals for the development of students' social skills, namely: to prepare *proactive* and *independent* environmental engineers capable not only *integrating into labour market*, but also *improving qualifications independently or in further studies*. When interviewed by the expert team, the programme's success in achieving the above-mentioned aims was repeatedly confirmed by alumni, present full-time and part-time students, teaching staff and present employers. The majority of alumni interviewed demonstrated pro-active thinking, and had easily found a job in the appropriate labour market (some of them while still studying), while others had successfully continued their studies in Bachelor or Master degree programmes in other Lithuanian universities. Despite the fact that, for the last three years, annual surveys of the Labour Exchange of Lithuania and Šiauliai region show that, in general, environmental

engineers in Lithuania, and especially in Šiauliai region, are not in high demand, there is nevertheless strong evidence that this study programme prepares environmental engineering specialists who clearly do meet a combination of academic requirements, professional social skills requirements, and local and regional labour market requirements in both the public and private sectors.

The study programme is popular amongst applicants largely due to its practical approach, direct marketing, close practical training relations with the employers, and for its open culture, modern management and flexible programme organisation. The total number of full-time and part-time entrants in 2007 was 25, 2008 – 25, 2009 – 28, 2010 – 35, 2011 – 59 and 2012 – 53. The number of students admitted has therefore increased considerably over the last 5 years, especially with respect to part-time students. Taking into account the current economic situation, direct graduate employment in the programme's specific field is also adequate, and currently constitutes 16-25 percent of the programme graduates.

The defined aims and learning outcomes of the programme are consistent with the type, level of studies and the level of qualifications offered. The learning outcomes of the programme include the research, special, social and personal skills to apply fundamental scientific knowledge in the environmental field, to analyse and assess environmental quality, to know and apply environmental pollution control methods, to choose appropriate methodologies and to have the ability to adapt to constant professional changes in different business environments.

However, it should be noted that in the SER the programme aims and even considerations of profession – specific skills and abilities are based more on international and national strategies and policy documents, rather than on actual surveyed local and regional labour market needs. Taking into account the demographic problems in Šiauliai region, as well as competition from similar study programmes, a more comprehensive analysis of job market opportunities in neighbouring regions (Telšių, Akmenės, Mažeikių and others) would be of significant benefit in shaping the programme to focus more on specific intra-regional industrial and public sector needs.

In conclusion, the programme aims and learning outcomes are well defined, clear, and publicly accessible. Details of the programme are obtainable not only on the SSC website, but are widely advertised beyond this, for example, at secondary schools and gymnasia. There is an interaction with external stakeholders and alumni in the programme renewal process, but their involvement needs to be more formalised and regular.

#### 2. Curriculum design

The programme meets legal requirements issued by the Ministry of Science and Education of the Republic of Lithuania – the General Requirements of the First Degree and Integrated Study Programmes, including: number of subjects per semester, study volume expressed in credit points, structure and approaches of examination. Practical training meets legal requirements and constitutes 33,9 percent of the total programme, but interviews with students and teachers during the evaluation visit, strongly suggest that this figure should be increased by improving existing practises in terms of content, more placements and the introduction of additional new practical training opportunities.

The programme's content is broad and is oriented towards preparing environmental engineers with a focus to perform specific activities in the field of environmental protection. During interviews, students confirmed that the programme management staff are very helpful and flexible when it comes to individual learning plans, especially for part-time students. The fact, that the programme has no specialisations is considered as a very positive and flexible strategy among students, teachers, alumni, employers. The expert team also see this as an opportunity for graduates to be more flexible in adapting to the labour market, or for further education requirements.

When planning to renew the study programme, the Study Committee of the programme have taken into consideration emerging market demands in order to introduce new subjects / modules, such as Biodegradable Waste Management, Wastewater Treatment, Environmental Policy and Law, Environmental Education. There is also a current plan to introduce a minor studies component in Environmental Management, which would open up additional graduate possibilities.

Study programme subjects and / or modules are spread evenly; their themes are not repetitive, but some of the more weakly developed courses should be updated and a more holistic approach applied to low levels of connection and interrelation between modules or subjects. Weak subjects which currently need strongly updated content and literature inputs are: Professional English Language, Basics of Laws and Environmental Studies, Pollution Prevention and Control and Waste Management Equipment.

The content and methods of the subjects / modules are appropriate for the achievement of the intended learning outcomes. Taking into account trends in the present labour market, as well as the programme's focus on "training specialists for practical activities, implementation of

projects and management of technological processes", weaker or partly missing subjects / modules / topics are:

- 1. Subjects with a sufficient content on social skills development (related with emotional intelligence and similar);
- 2. A relatively weak focus on prevention in general (e.g. eco-design, integrated product policy, etc.). The programme is currently over-dominated by an 'end-of-pipe' approach;
- 3. A relatively weak practical skills and practical / integrative / interdisciplinary skills approach in the application of integrating tools such as Environmental Impact Assessment (EIA), Environmental Social Impact Assessment (ESIA), the application of legislation, case-studies analysis and visits to companies or institutions;
- 4. Industrial technologies and their related impact; the current content as a whole is more focused on a technical, rather technological approach;
- 5. An absence of study on Environmental Management Systems.

Good evidence was found that programme's content is reviewed taking into account new emerging tendencies from the market and from graduate surveys, but a more formalised approach must be used in integrating such review with the strategic planning of teachers' research, as well as the further development of the facilities.

Evidence from the evaluation visit suggests that the students' current abilities in the English language would be sufficient to facilitate at least some teaching conducted in English. A further recommendation is to also increase the use of guest lecturers from professional practise, as well as guest lecturers from abroad.

#### 3. Staff

The programme staff meets all teacher's qualification requirements (21,68 percent of the study field study subjects / modules are taught by individuals with science degrees and 70,3 percent of teachers have at least 3 years' experience of practical work in the taught study field). A large majority of programme staff are very enthusiastic, motivated and proactive. Relations between students and staff are open and trustful; generating an atmosphere which is very favourable for the study process.

The majority of programme staff are full-time. In all, 27 teaching staff are involved in the programme, including 5 Doctors of Science, 1 PhD student and 5 Masters of Science. However, given the possibilities provided in the Šiauliai State College Programme for Scientific Potential Improvement (2012-2015), it is recommended to continue enrolment of new staff with doctoral

degrees. Turnover of programme staff is low; however recent replacement posts have seen an encouraging tendency to be filled through open contest by new young staff and this improves the programme staff's age profile and will probably lead to content or teaching innovations.

Staff appraisal and attestation processes are generally good. However, some formal improvements in the attestation process could be made in order to better assess staff according to their pedagogical, scientific or other public activities. Such assessment might be used to create differentiated salary mechanisms which could stimulate even more positive change.

Research participation in various projects and mobility activities, as well as qualification improvement processes amongst the staff, is reasonable but could be improved, in turn leading to improved publication records, especially at the international level. However, the SER assertion, that SSC and study programme management creates all necessary conditions for the professional development of the teaching staff was strongly confirmed during interviews, where teachers confirmed that the SSC system also worked well in practise. Significantly, teachers therefore blamed themselves for not taking greater advantage of the readily available professional development and mobility programmes opportunities, and a system producing greater professional development motivation should therefore be explored.

Employers (practitioners or company representatives) are actively involved in student assessment and supervision work, and in the work of final project evaluation committee. However, despite the fact that they must meet certain education requirements, no evidence was found that they receive any training and / or mentoring in the area of student assessment, and it is recommended that this process of involving social partners in student assessment should undergo review.

In conclusion, staff are sufficiently well qualified to meet the learning outcomes of the programme. Staff turnover is low, but recently new young teachers have been appointed through open public contest. Staff mobility is reasonable, but, as there are no limitations or constraints imposed by the study programme management, in order to more extensively utilise these extant opportunities, a formalised improved motivational procedure should be explored. Almost all staff are active in research related to their taught subjects, at least up to the national level; however publication records could be improved.

#### 4. Facilities and learning resources

Premises used for the programme are shared with other programmes in the Faculty of Business and Technologies and are adequate for the delivery of the programme. The majority of the premises used have been recently modernised and are in a very good state of repair.

Laboratory provisions for the programme are also shared, using 10 laboratories within the Faculty of Business and Technologies. Working conditions within these laboratories are regularly appraised and appropriately updated. Laboratory premises support development of skills needed in labour market and contain the equipment needed to run activities in environmental engineering field.

Additional resourcing is also provided at a practical level by Municipal laboratories, for example composting at the Siauliai Municipal Environmental Research Laboratory, and by private companies, for example in the area of waste water treatment.

Overall, the provision of learning resources is excellent and stems from a combination of regular appraisal, together with effective updating, and from a successful pursuit of significant external funding with which to finance the provision of readily available modern equipment. No significant weaknesses were found in this area.

#### 5. Study process and student assessment

The admission requirements for the programme are LAMA BPO centralised and are well-founded. Increases in the number of applications, admissions and competitive scores, all illustrate that demand for the programme is rising rapidly, with admissions up from 25 in 2007 to 52 in 2012.

The study programme is flexible, transparent and includes a substantial range of freely chosen subjects which ensures adequate provision of the programme and the achievement of its learning outcomes. From the next academic year, students will be able to choose minor studies subjects, for example, in pollution control, bioremediation and environmental law. There is sufficient flexibility in the programme timetabling to fully accommodate the needs of part-time students.

Drop-out rates for the programme reflect inevitable personal and financial constraints; however drop-out rates have fallen steadily and significantly from 44 percent in 2007 to 13.6 percent in 2012, illustrating the extent to which the programme has become increasingly motivational to students.

As demanded by its Professional Bachelor's qualification, the programme emphasises practical studies at the expense of more theoretical studies and cooperation with social partners is thus an essential component, notably in providing practical placement opportunities. After initial early difficulties, cooperation with social partners has now improved, especially with respect to the public bodies. Employers interviewed during the evaluation visit, were now generally happy with both the current curriculum and with their involvement in the process of programme management. However, additional placement opportunities would be valuable and the programme managers should redouble their efforts in this direction by increasing their cooperation with the 'actors' in the environmental field and by trying to increase the geographical range of their placements.

Student graduation works are of good quality.

Student participation, for example, in the student scientific conferences, the annual environmental campaign and various scentific competitions is good. Especially noteworthy has been the recent winning of a Lithuanian competition in which the participating students won a trip to Sweden. Staff involvement with students in conferences participation is strong.

Although information flows about student mobility programmes are good, and students are aware of the opportunities and benefits available to them, student participation in mobility programmes is only moderate. Students interviewed during the evaluation visit cited financial restrictions and a lack of confidence in their linguistic ability as the principal reasons for this lack of uptake. However, greater promotion of mobility benefits by staff, and especially an increase in the use of visiting 'foreign' staff, coupled with additional language training would provide a better preparation for Erasmus mobility and, very probably, an increase in student uptake.

Operating primarily through a coordinating studies advisor for each year group, student support on the programme is excellent. So too are staff-student relations. Students interviewed during the evaluation visit were extremely complimentary about the academic staff, notably in terms of their ready availability, their general helpfulness and their practical knowledge and expertise, including professional competence.

The assessment system for student performance is generally sound, clear and publically available. It also supports the learning outcomes especially where assessed practical work facilitates: the development of transferable skills through group work, role play and oral debate.

#### 6. Programme management

Responsibilities for programme monitoring and the implementing of programme decisions are both clear and effective. Reporting through the Committee of Technological Sciences Programmes Maintenance and Study Quality Assurance, the Faculty Council and the Academic Council, the Head of Department has direct responsibility for programme management. However, regular updating of programme operations rests with a Programme Committee, the Programme Update Workshop, which amalgamates Head of Department, teachers, student and employers' representatives. The direct involvement of the teaching staff in this forum, together with the regularity of its meetings on a monthly basis, undoubtedly provides teaching staff with a crucial and admirable 'sense of ownership of the programme' and, in turn, results in highly flexible and progressive programme management.

Data for programme evaluation is collected at a number of levels. At departmental level, programme management data is collected on a combined semester and annual basis and covers areas such as teacher and student output indices (publication, conference presentations etc.), staff: student loadings, drop-out rates and graduation results. At a semester level, survey data is used to monitor ongoing student study outcomes and to provide a regular basis for discussion and setting of appropriate improvements.

Data is collected annually from student surveys at both programme and subject levels. Additionally, data is also collected annually on specific issues, for example on satisfaction with research resources and processes (2011) and programme delivery modes (2012). A specific graduation survey on programme content and organisation was conducted in 2010, but graduation surveys do not appear to be part of annual review. Employer opinions with respect to the programme's aims and objectives were extensively researched in 2009, but employer surveys do not appear to be conducted on a regular basis. The warning sign in this particular survey is that 60% of employers are only partly satisfied with the preparation level of specialists.

Data is collected from teachers on a self-evaluation basis at a semester / subject level, leading to adjustments in, for example, subject content, assessment innovations and technology development. Staff data collection is largely effective, but some questionnaire wording is potentially ambiguous, for example the subjective definition of what is 'broad and deep', and potentially inaccurate, for example the current attribution of authored publications to only the first named contributor.

Evidence of internal and external programme evaluation is good and the regular application of such evaluation is highly effective in programme improvement. This ongoing process of programme improvement also reflects, and is cognisant with, regulatory and labour market changes, although it currently pays relatively too little attention to analyses of regulatory change and labour market opportunities at extra-regional and international levels. Internal self-evaluation also operates annually with respect to selected specific issues, for example programme structural analysis (2010), teaching staff and learning resources (2011) and ECTS (2011).

Stakeholders' involvement in evaluation processes is significant. Social partners' opinions on the Study Programme's Aims and Objectives were extensively researched and incorporated into the programme in 2009. Although employer surveys are not annual, the placement system ensures effective data and opinion exchange between teachers, social stakeholders and employers on a regular, albeit informal, evaluative basis. Employers interviewed during the evaluation visit expressed their general satisfaction with their involvement in the programme management.

Internal quality assurance measures within both the College and the programme are coherent and effective. They lead to positive annual activity plans and to clearly discernible action planning for quality improvement. End of year departmental self evaluation is effective in measuring actioned outcomes and in providing a basis for subsequent, 'next year' planning. Quality assessment issues and outcomes are transparent at departmental, Faculty and College Academic Council levels.

#### III. RECOMMENDATIONS

- 1. That employer (-s) and alumni representatives should be included in future self-evaluation groups.
- 2. That programme managers should extend their current efforts to find practical placements for students. This may well involve greater cooperation with 'actors' in the environmental field over a significantly wider geographical area.
- 3. That a comprehensive labour market needs study should be developed, extending the current analysis of labour market opportunities to recognise greater extra-regional and international dimensions.
- 4. That social stakeholders and employers should receive appropriate training and / or mentoring in the area of student assessment (term papers supervision, final thesis / projects supervision, theses / projects defence process).
- 5. That the enrolment of new staff with doctoral degrees (or at least PhD) should be strongly encouraged.

#### IV. SUMMARY

The programme provides a sound first cycle qualification in the environmental engineering (environmental protection) study field and the name of the programme, the learning outcomes, content and qualifications offered are all fully compatible with this. The learning outcomes are broadly based and are in line with academic, professional and, in part, with employment demands. In order to strengthen programme content, and to achieve higher graduate employment figures, there is a need for greater analysis of labour market needs within Šiauliai and Šiauliai region, but also at extra-regional and international levels outside the Šiauliai region, for example, in neighbouring countries such as Latvia and Belarus.

The curriculum is broadly based and consistent with the type and level of the studies and supports the achievement of learning outcomes. However, more emphasis is suggested on improving some existing practises in terms of content placements and in the introduction of new practical training opportunities. Additionally beneficial would be improvements in study courses which support a more holistic approach to environmental protection, for example, more focus on integrative / interdisciplinary approaches to pollution prevention and environmental management.

The overall provision of learning resources is excellent and stems from a combination of regular appraisal, together with effective updating, and from the significant successful pursuit of external funding with which to finance the provision of readily available modern equipment. No significant weaknesses were found in this area.

The study process and the students' performance assessment are both strongly positive. The programme's major strengths lie in its rising numbers and in its increasing motivational achievement. It is a flexible and constantly modernising programme which is firmly targeted at the labour market.

Staff-student relations are extremely strong with students encouraged to participate in many extra-curriculum scientific activities. There is a strong level of academic support through the coordinating advisor of studies system and there is a clear assessment system which also permits a good level of transferable skills development. The main weaknesses of the programme, which are minor in comparison to the major strengths, are its apparent inability to generate sufficient student mobility, a lack of training or mentoring of employers as assessors and an apparently restricted range of extra-regional geographical outlook which reflects negatively in the search for placements and restricts the use of visiting lecturers.

Lines of management responsibilities are clear but flexible, leading to an excellent sense of ownership of the programme by the teaching staff which, in turn, leads their involvement in a self confident and regular process of programme re-evaluation and ongoing positive improvement. The data collection which underpins programme review is extensive, and involves students, teachers, graduates, social stakeholders and employers. Quality assurance mechanisms are effective at departmental, Faculty and College levels. In comparison to its strengths, the programme management weaknesses are trivial, but attention should be paid to the absence of an annual graduate survey and to ambiguities in the wording of some of the questionnaire designs.

#### V. GENERAL ASSESSMENT

The study programme *Environmental Engineering (Environmental Protection)* (state code – 65304T101, 653H17003) at Šiauliai State College is given positive evaluation.

Study programme assessment in points by fields of assessment.

No.	Evaluation Area	Evaluation Area in Points*	
1.	Programme aims and learning outcomes	3	
2.	Curriculum design	3	
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)	4	
	Total:	21	

<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.

### ŠIAULIŲ VALSTYBINĖS KOLEGIJOS PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS *APLINKOS APSAUGA* (VALSTYBINIS KODAS – 653H17003) 2013-04-19 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-103 IŠRAŠAS

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### V. APIBENDRINAMASIS ĮVERTINIMAS

Šiaulių valstybinės kolegijos studijų programa *Aplinkos apsauga* (valstybinis kodas – 653H17003) vertinama <u>teigiamai.</u>

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

- \* 1 Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)
- 2 Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)
- 3 Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)
- 4 Labai gerai (sritis yra išskirtinė)

<...>

#### IV. SANTRAUKA

Baigus studijų programą suteikiama pirmosios studijų pakopos kvalifikacija aplinkos inžinerijos (aplinkos apsaugos) studijų šakoje. Studijų programos pavadinimas, numatomi studijų rezultatai, studijų programos turinys ir suteikiama kvalifikacija dera tarpusavyje. Numatomi studijų rezultatai yra pagrįsti akademiniais, profesiniais reikalavimais ir iš dalies darbo rinkos poreikiais. Norint gerinti studijų programos kokybę ir didinti absolventų užimtumą, reikia detalesnės darbo rinkos poreikių analizės ne tik Šiaulių mieste ir Šiaulių regione, bet ir tarpregioniniu bei tarptautiniu lygmeniu, pvz., kaimyninėje Latvijoje ir Baltarusijoje.

Studijų programos sandara atitinka studijų rūšį ir pakopą, ji taip pat leidžia pasiekti numatomus studijų rezultatus. Vis dėlto patartina daugiau dėmesio skirti praktikų tobulinimui, atsižvelgiant į

praktikų turinį ir naujų praktinio mokymo galimybių diegimą. Taip pat būtų naudinga į studijų dalykus įtraukti temas, kurios prisidėtų prie holistinio požiūrio į aplinkos apsaugą plėtojimo, pavyzdžiui, daugiau dėmesio skirti integruotiems / tarpdisciplininiams požiūriams į taršos prevenciją ir aplinkos apsaugos vadybą.

Studijų programos materialieji ištekliai apibūdintini kaip puikūs; tai lemia nuolatinis jų atnaujinimas ir akivaizdžiai sėkmingos pastangos gauti išorinį finansavimą, kuris skiriamas moderniai įrangai įsigyti. Didesnių trūkumų šioje srityje ekspertai nepastebėjo.

Studijų eiga ir jos vertinimas vertintini teigiamai. Pagrindinėmis studijų programos stiprybėmis gali būti įvardijamas didėjantis stojančiųjų skaičius ir studentų motyvacija. Tai yra lanksti ir nuolat atnaujinama studijų programa, pasižyminti orientacija į darbo rinką.

Santykiai tarp studijų programos personalo ir studentų yra ypatingai geri: be studijų, studentai skatinami dalyvauti papildomoje mokslinėje veikloje. Akademinė parama teikiama studentams apibūdintina kaip aukšto lygio. Ją teikia studijų programą koordinuojantis asmuo, taip pat paminėtina, kad studijų programoje yra įdiegta skaidri vertinimo sistema, kuri suteikia galimybę perkeliamųjų įgūdžių tobulinimui. Pagrindinės studijų programos silpnybės, kurios gali būti įvardijamos kaip nežymios, lyginant su studijų programos stiprybėmis, yra žemi studentų mobilumo rodikliai, nepakankamas darbdavių mokymas ir konsultavimas studentų vertinimo klausimais ir Šiaulių regionu apribota geografinė perspektyva, turinti neigiamos įtakos įsidarbinimo galimybių plėtrai ir vizituojančių dėstytojų pritraukimui.

Studijų programą vykdančio personalo atsakomybės ribos yra aiškiai nustatytos, tačiau lanksčios, leidžiančios akademiniam personalui pasijusti programos vykdymo dalimi ir kartu dalyvauti nuolatiniame studijų programos vertinimo bei tobulinimo procese. Duomenys, padedantys stebėti studijų programos vykdymo kokybę, renkami intensyviai. Šiame procese dalyvauja studentai, dėstytojai, absolventai ir socialiniai partneriai. Kokybės užtikrinimo mechanizmai veiksmingi katedros, fakulteto ir kolegijos lygmenimis. Studijų programos vadybos silpnybės, lyginant su jos stiprybėmis, yra nežymios, tačiau reikėtų atkreipti dėmesį į tai, kad renkant duomenis studijų programos kokybės gerinimui, nėra atliekama metinė absolventų apklausa ir kad neaiškios kai kurių klausimynų, vertinant studijų programos kokybę, formuluotės.

#### III. REKOMENDACIJOS

- 1. Ateityje darbdavio (-ių) ir absolventų atstovai turėtų būti įtraukiami į savianalizės suvestinių rengimo grupes.
- Programos vykdytojai turėtų dėti daugiau pastangų ieškant praktikos vietų studentams.
   Tai galima būtų padaryti aktyviau bendradarbiaujant su aplinkos apsaugos sektoriaus dalyviais platesnėje geografinėje teritorijoje.
- 3. Reikėtų atlikti išsamią darbo rinkos poreikių studiją, išplėčiant dabartinę darbo rinkos galimybių analizę, kad būtų įtraukta daugiau regioninių ir tarptautinių aspektų.
- 4. Socialiniams partneriams turėtų būti rengiami atitinkami mokymai ir (arba) teikiama pagalba studentų pasiekimų vertinimo srityje (vadovavimas kursiniams, baigiamiesiems darbams / projektams, dalyvavimas baigiamųjų darbų / projektų gynime).
- 5. Priimti naujų darbuotojų, turinčių daktaro laipsnį (ar bent doktorantų).

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Paslaugos teikėja patvirtina, kad yra susipažinusi su Lietuvos Respublikos Baudžiamojo kodekso<sup>2</sup> 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

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<sup>&</sup>lt;sup>2</sup> Žin., 2002, Nr. 37-1341.