



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

**KAUNO MIŠKŲ IR APLINKOS INŽINERIJOS KOLEGIJOS
STUDIJŲ PROGRAMOS *HIDROTECHNINĖ STATYBA*
(*valstybinis kodas – 653H17004*)
VERTINIMO IŠVADOS**

**EVALUATION REPORT
of STUDY PROGRAMME *HYDRAULIC ENGINEERING*
(*state code – 653H17004*)
STUDY PROGRAMME
at KAUNAS FORESTRY AND ENVIRONMENTAL
ENGINEERING UNIVERSITY OF APPLIED SCIENCES**

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Išvados parengtos anglų kalba
Report language – English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Hidrotechninė statyba</i>
Valstybinis kodas	653H17004
Studijų sritis	Technologijos mokslai
Studijų kryptis	Bendroji inžinerija
Studijų programos rūšis	Koleginės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	nuolatinė (3), iššęstinė (4)
Studijų programos apimtis kreditais	180
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Aplinkos inžinerijos profesinis bakalauras
Studijų programos įregistravimo data	1991-04-23

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Hydraulic Engineering</i>
State code	653H17004
Study area	Technological Sciences
Study field	General Engineering
Type of the study programme	College studies
Study cycle	First
Study mode (length in years)	Full-time (3), Part-time (4)
Volume of the study programme in credits	180
Degree and (or) professional qualifications awarded	Professional Bachelor of Environmental Engineering
Date of registration of the study programme	23-04-1991

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I. INTRODUCTION

1.1. Background of the evaluation process

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

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

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

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

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

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

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

1.2. General

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

No.	Name of the document
1	Document on implementation of the EU Water Framework Directive in the Study Programme

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

The basis for this evaluation report is the Self-Evaluation Report (SER) prepared by a SER team at the *Kaunas Forestry and and Environmental Engineering University of Applied Sciences (KFEEUAS)*, its annexes and the results of site visit of the review team on 3 May, 2016. The SER

has been prepared by a team consisting of seven persons, five employees of the KFEEUAS, a student representative, and an employers' representative.

During the visit the experts reviewed the facilities of the university, the organisation of the Programme, the way in which the curriculum had been designed, the way the study quality was being assured, the qualification of the staff, learning resources, study process, students assessment and Programme management. Attention was also paid to the fulfilment of recommendations and final statements indicated in the previous external evaluation report conducted in 2012.

The KFEEUAS consists of two faculties, namely the faculty of Forestry and Landscape Architecture and the Faculty of Environmental Engineering. The Hydraulic Engineering Study Programme is implemented by the department of Hydrotechnical Construction belonging to the Faculty of Environmental Engineering. The KFEEUAS is the only higher education institution in Lithuania offering the Professional Bachelor's degree in Hydraulic Engineering.

1.4. The Review Team

The review team was completed according *Description of experts' recruitment*, approved by order No. 1-01-151 of Acting Director of the Centre for Quality Assessment in Higher Education. The Review Visit to HEI was conducted by the team on 3rd May 2016.

1. **Prof. dr. Olav Aarna (team leader)**, *International expert for quality assessment in HE, Adviser to the Managerial Board of Estonian Qualification Authority Kutsekoda, Vice-Rector for Research and Development, Estonian Business School, Estonia.*
2. **Prof. dr. Judit Padisák**, *Director of Institute of Environmental Sciences, University of Pannonia, Hungary.*
3. **Prof. dr. Soon-Thiam Khu**, *Professor of Urban Water System Engineering, Head of Civil Engineering Department, School of Engineering, Monash University, Australia.*
4. **Prof. habil. dr. Arvydas Povilaitis**, *Professor of Environmental Engineering, Head of Water Resources Engineering Institute, Aleksandras Stulginskis University, Lithuania.*
5. **Ms. Lina Šleinotaitė-Budrienė**, *expert for environment protection, director of JSC "Ekokonsultacijos", Lithuania.*
6. **Ms. Inga Bačelytė**, *Master student of study programme "Applied ecology", Aleksandras*

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The Programme is aiming at preparing broad-minded specialists of hydraulic engineering who have accumulated knowledge of general, fundamental and special subjects, and are able to identify, formulate as well as solve water management problems, apply and install up-to-date technologies in water management and system construction, repair and maintenance taking into consideration balanced need for energy and resources as well as its impact on the environment, flexibly respond to business environment, technological changes and needs. The aims of the Programme are well defined, clear and publicly accessible. They are based on the needs of society and the labour market, and essential for the Hydraulic Engineering market segment. The aims and expected learning outcomes (LOs) are publicly available in the KFEEUAS website, promotional information for applicants leaflets, brochures, and other information sources.

During the previous external evaluation in 2012 it has been mentioned that „*The aims and the study outcomes were not well interrelated and clearly defined.*“ Although the SER claims, that the Study Programme Committee adjusted and reformulated the Programme aims and expected LOs, this aspect has been still problematic. The SER lists nine LOs necessary to achieve the Programme aims. In general these follow five categories of the *Study Cycle Descriptions*. At the level of the LOs, there are substantial inconsistencies. Under the category Knowledge and its Application, LOs cover only Knowledge, while not emphasising the importance of „newest scientific evidence“, and two LOs are limited only to level of „be familiar“. On the other hand, in some occasions the LOs are more ambitious than expected by the *Study Cycle Descriptions* having in mind that the LOs have to be achieved by all students. For instance, under Research skills the Programme graduates are expected to be able to „conduct laboratory research“, which is obviously not covered by the curriculum. Another example of this type relates to the category Social skills, where the graduates are expected to be able to „communicate, participate in discussions, prepare presentations in appropriate Lithuanian and English both orally and in writing“. In the context of English language competence of teaching staff and students, this LO is very ambitious, but unrealistic (for details see p.2.3 and 2.5). Another aspect needing revision is linking the Programme LOs with subject courses, where the tendency seems to be to cover all the Programme LOs with maximum number of subjects (incl. Final Theses), while having forgotten that all these LOs need to be assessed also. As far as starting from September 2016 the Programme LOs need comply with the guidelines of *General Regulation of Technological Sciences (Engineering) Study Field*, the review team recommends to be more consistent in implementing the constructive alignment of the Programme aims, LOs, subject LOs, teaching and learning, and students' assessment.

The Programme has four specialisations: Internal Engineering Networks, Field Engineering Networks, Fisheries and Aquaculture, Energetics of Renewable Resources. On the other hand, specific aims and LOs of specialisations are not reflected in the Programme aims and LOs, and the students do not have the possibility to choose the requested specialisation. Moreover, the content of some specialisation modules (e.g. Internal Engineering Networks, and Energetics of Renewable Resources) has fairly weak relationship with Hydraulic Engineering. Therefore, the review team recommends to revise the need for specialisations.

The employers and other social partners are satisfied with the Programme graduates. They appreciate their practical skills based on combined environmental and civil engineering knowledge. However, there are some gaps in the fundamental knowledge, especially in chemistry. The argument, that part of the chemistry topics have been integrated into the subjects “Ecology and Environmental Protection” and “Geology and Basics of Agrochemistry”, where special attention is paid to chemical composition of water and soil as well as chemical substances in agriculture and other branches, is not convincing and is insufficient.

The problems dealt with in the students’ final theses are coming from practical needs of enterprises and organisations and are directly related to Hydraulic Engineering.

In general, the Programme aims and LOs are consistent with the type and level of studies and the level of qualification offered. The name of the Programme and offered qualification are compatible with each other.

2.2. Curriculum design

The structure and design of the Programme curriculum meet the requirements of the *Description of General Requirements for Degree-Awarding First Cycle and Integrated Study Programmes* concerning the number of credits, the volume of subjects, duration of practical training, the number of teachers with doctoral degree as well as of those who have at least three years experience of practical activity. The curriculum is developed to reach the aims of the Programme and to provide wide enough general training and skills to be competitive in the labour market, as it has been stated by the employers and graduates.

The curriculum is developed under supervision of the Faculty administration, the Department responsible for the Programme and the Programme Committee. The curriculum covers a broad range of engineering subjects, and the sequence of courses seems to be logical. Nevertheless, too little attention is paid to the fundamentals of natural sciences. Five credits are assigned for Mathematics, three credits for Environmental Physics, while Chemistry is totally missing in the Programme (see p.2.1). The review team recommends to introduce chemistry as a

compulsory subject. More information on EU concepts, like the Water Framework directive, would better prepare the students to the labour market's needs. As far as English language skill is prominent among the Programme LOs (see p.2.1), the development of foreign language competence needs to be reconsidered, not just relying on a three credits special language course, but also by incorporating it in other subjects. It is important to mention that similar recommendations have been made during previous external evaluation, but has not been implemented yet.

The curriculum contains 42 subjects, having the volume from three to eight credits. The review team recommends re-design the Programm using standardised modules of five or six credits.

The content and methods of delivery used are in general appropriate for the achievement of the Programme LOs. However, the review team also recommends using more active teaching/learning methods. The review team appreciates implementation of the Moodle based Course Management System beneficial for both students and teachers. Concerning the content of the curriculum, it is recommended:

- include more practical case studies into the subjects;
- better reflect the latest achievements in science and technology (e.g. BIM – Building Information Modelling technology is not presented);
- systematically develop students' entrepreneurship and managerial skills.

2.3. Teaching staff

The teaching staff of the Programme includes 26 members, of whom nine are associate professors, 16 lecturers and one laboratory assistant. The main criterion in hiring teaching staff is compliance with qualification requirements, incl. experience of pedagogical and professional activity in the relevant field. The overall quality and quantity of the teaching staff is appropriate to achieve the Programme aims and LOs. However, majority of teachers are part-time staff coming from other higher education institutions. Only three of 15 teachers working at the Department of Hydrotechnical Construction are full time staff and only three out of 12 part-time teachers are coming from enterprises. Therefore, it is recommended to increase the share of full time teaching staff, while involving more practitioners from industry, construction and consultancy companies.

The KFEEUAS administration implemented conditions for the professional development of the teaching staff, providing possibilities for improving pedagogical skills, while internships in enterprises and organisations involved in hydraulic engineering have to be promoted. The review team is concerned about the teachers' foreign language skills, and involvement in applied research, particularly in hydraulic engineering.

Within the period of 2010–2015, 15 teachers took part in the Erasmus+ exchange programme (on average 3 visits per year), extending international academic cooperation. International exchange is somewhat unbalanced with just 1.4 teachers' visits per year on average. This is obviously consequential upon the modest foreign language skills of teaching staff and students and may have a cascading effect to other fields of teachers' activity.

An important area of improvement is developing common understanding about the LOs based approach, especially how to implement it in the assessment system (for more details see p.2.5).

2.4. Facilities and learning resources

Premises, facilities and learning resources are adequate both in size and quality at KFEEUAS. Teaching and learning equipment is updated and easily accessible for all students. The institution has a well-developed infrastructure for practical training and studies. The students can use 24 computers in the library reading room for their self-study or group activities. Although opening hours of the library and laboratories on working days is until 5 p.m., the students can use the College classrooms equipped with specialised software until 11 p.m.

Diverse methodical resources and teaching materials are stored and available in e-learning platform *Moodle*. Students also have a possibility to use books, textbooks, sets of methodical guidelines and other information available in the KFEEUAS library. There is substantial increase in the number of new textbooks in hydraulic engineering at the library compared with previous external evaluation in 2012. At the moment, the students and teaching staff have access to research databases at the library of the Lithuanian Forestry Institute. The students interviewed acknowledged that they rarely use them.

Under an agreement between the KFEEUAS and the Aleksandras Stulginskis University (ASU) in Kaunas, students are conducting their practical assignments in structural and hydraulic engineering at the university laboratories. Yet, more improvement could have been achieved since the previous external evaluation concerning displaying physical hydraulic models in an open air hydraulic structures laboratory. Potentially the distance between the ASU and the college could be a problem but the students confirmed having no difficulty reaching the ASU, partially because the bus schedule was adapted to the students needs, and working in the laboratory has been concentrated to one day in the week.

The KFEEUAS has intranet and wireless internet. The access to computer facilities is adequate as well as sufficient number of professional licensed software (AutoCAD, GIS, GeoMAP,

SISTELA and other specialized programmes) is available for students, ensuring their ability to gain necessary practical training to be able to enter the labour market. Some new specialised hydraulic engineering software has been purchased since the last evaluation in 2012.

The KFEEUAS administration has been very active in initiating EU funded projects for improving the infrastructure, teaching and learning resources. An extensive list of practice places for students is an evidence of good collaboration with social partners and adequate arrangements for the practice.

The review team recommends to consider establishing specialised laboratory in hydraulic structures within the KFEEUAS campus.

2.5. Study process and students' performance assessment

The SER provides a clear picture of the admission requirements and procedures. They are available on the KFEEUAS website together with and information about the study process, the Programme aims and expected LOs (see p. 2.1).

The average competitive grade of entrants to the Programme is quite low and the number of admitted and graduated students has been fairly unstable. On average, 19 students were admitted each year, whereas about 70 per cent of them graduate. Students actively participate in events, championships, competitions, contests and social actions organised by KFEEUAS. A sports hall, the fitness centre, the stadium, basketball and volleyball courts are available for students.

Some improvement in the study process could be observed since the last external evaluation. Significant improvement in the knowledge of foreign languages (e.g. English) of students is observed. This also concerns the possibility for students to participate at scientific conferences. The KFEEUAS organises an international scientific conference each year, where students can give presentations. Their articles are published in the conference proceedings. This motivates students for being more responsible and targeted to the studies. However, the interviews at KFEEUAS revealed that only very few students have been involved in this activity. The review team recommends to take active measures to involve students in applied research.

The students have close and friendly relations with teachers and administration. They can also easily communicate with teachers by e-mail. The students working part time can study according to their individual plans. The KFEEUAS has established a students motivation system. Students who are socially active and excellent learners have a possibility to receive scholarship. Students with disabilities are offered financial support.

The students have opportunities to participate in student mobility programmes. Information about the Erasmus+ programme, partner HEIs as well as the procedure for students' selection is

displayed on the KFEEUAS website, announcement board, and explained at contact seminars. This information is also disseminated by the Coordinator of International Relations. The number of outgoing students varies from two to four each year. However, the number of incoming foreign students in the Programme is very low (two students since 2010 in total). This clearly indicates that much more effort is needed to promote international exchange. A similar disbalance is valid for the international exchange of teaching staff.

The students performance assessment system has become much clearer and more adequate since the last external evaluation. The subject LOs are assessed following the rules approved by the KFEEUAS Academic Council. The assessment system is a ten-point criterial one. The LOs are assessed by cumulative score, thus promoting consistent student's work during a semester. Each student has individual access to his/her current score. At the beginning of the each subject course teachers introduce students the expected LOs, the assessment criteria, and the forms of testing. Nevertheless, interviewing the students it became evident that the students are not familiar with the concept of LOs. The review team recommends to contextualise the assessment criteria and clearly define, what level of academic achievement (threshold, average or excellent) the Programme and subject LOs actually describe. This can be done revising the whole Programme design following the requirements of the *General Regulation of Technological Sciences (Engineering) Study Field*, and applying the constructive alignment of the Programme aims, LOs, curriculum design, teaching, learning and assessment (see also p. 2.1 and 2.2). This understanding has to be conveyed to all members of teaching staff, students, and stakeholders.

Regular attention is paid to students' feedback. Student surveys take place once a year. They are asked to express their opinion about quality of studies, the Programme, the subject courses, logics and consistency of course delivery, and the quality of teaching. In the end of a semester, students are provided a detailed questionnaire to evaluate each subject course, teacher's performance, and the programme of the semester. The answers collected are generalised, they and the results are discussed at the department meetings.

During the period 2010-2014 56 full-time students graduated the Programme. According to the employers perception, majority of the Programme graduates meet their expectations. Substantial part of the graduates continue their studies at a university, particularly seeking a Master's degree needed to enter public service.

2.6. Programme management

Responsibilities for decisions and monitoring of the Programme implementation are clearly defined and allocated. The main responsibility is allocated to the Department of Hydrotechnical

Construction. The Study Programme Committee and the KFEEUAS Administrator of Studies are also directly involved in the Programme management and administration. Information on the Programme implementation is regularly collected and analysed by the bodies mentioned. The content of the Programme is annually reviewed and amended if necessary.

According to the SER, monitoring of the Programme implementation involves all parties concerned (teachers, students, graduates and employers). Following the results of stakeholders surveys and reports of departments, necessary amendments are made to the Programme.

The Programme evaluation involves all groups of stakeholders. Graduates' surveys are conducted annually by telephone or e-mail. Surveys are carried out 6-12 months after graduation. The aim of the survey is to find out how the graduates have been employed, and what is their perception about the Programme implementation. While interviewing the social partners, the review team revealed that major discussion happens once a year after the defense of the final theses and based on the quality of final thesis. From this explanation it is difficult to imagine how the entire Programme evaluation can be done judging the quality of final thesis only. Therefore the review team recommends more frequent and systematic meetings with social partners with respect to the Programme evaluation and development.

Most of changes in the Programme, the curriculum, its implementation and management made after the last external evaluation of the institution in 2012 follow the recommendations (for more details see p. 2.1-2.5).

The expert group recommends to intensify stakeholders' involvement into the curriculum design, development and evaluation more systematic and regular.

III. RECOMMENDATIONS

1. Reconsider the need for specialisations with specific aims and learning outcomes.
2. Redesign the Programme following the constructive alignment approach, the *General Regulation of Engineering Study Field*, and using standardised size of modules.
3. Strengthen students' competence in natural sciences and foreign language, systematically deliver the latest achievements in science and technology, and develop students' entrepreneurship as well as managerial skills, and research activity.
4. Use more practical case studies and other active teaching/learning methods in the Programme delivery.
5. Train teachers for a better understanding and implementation of the constructive alignment approach: the relationship between the Programme aims, learning outcomes, teaching and learning activities, and students' assessment.
6. Improve linguistic skills of teachers, especially English, to support international cooperation, mobility, and research activity.
7. Increase the share of full time teaching staff, and involve more guest teachers from abroad and from regional organisations.
8. Wider involve the teaching staff into applied research, especially in hydraulic engineering and water management.
9. Consider developing specialised laboratory of Hydraulic Structures within the campus.
10. Introduce Programme specific scientific literature in English in the library, and establish open access to the international research data bases (e.g. ScienceDirect).
11. Make stakeholder involvement into the curriculum design, development and evaluation more systematic and regular.

IV. SUMMARY

Kaunas Forestry and Environmental Engineering University of Applied Sciences (KFEEUAS) is a unique institution in Lithuania offering a professional bachelor's qualification in Hydraulic Engineering (HE). The aims of the Programme are well defined, clear and publicly accessible. They are based on public needs and the needs of the labour market. However, the need for four specialisations within the Programme is doubtful, because the students are not always able to choose desirable specialisation. The employers and other stakeholders are satisfied with the graduates. The Programme's aims and learning outcomes (LOs) are consistent with the type and level of studies and the level of qualifications offered. The name of the Programme and qualification offered are compatible with each other. The structure and design of the Programme follow the *Description of General Requirements for Degree-Awarding First Cycle and Integrated Study Programmes* in terms of the number of credits, volume of subjects, duration of practical training, the number of teachers with doctoral degree as well as of those who have at least three-years' experience of practical activity.

The curriculum is developed to reach the aims of the Programme and to provide wide enough general training and skills to be competitive in the labour market. Nevertheless, the background of knowledge of fundamental sciences has to be improved. Many subjects have a volume of three credits resulting in a big diversity of subjects. It is advised to group similar subjects in order to reach a volume of five or six credits.

The teaching staff includes lecturers with different backgrounds and having relevant competences in the area of the taught subjects and the composition of the teaching staff meet the legal requirements for the Programme. The overall quality and quantity of the teaching staff is appropriate to achieve The Programme aims and LOs. However, majority of teachers are employed part-time coming from other universities. Only 20% of teachers working at the department of Hydrotechnical Construction are full time staff. Therefore, it is highly recommended to increase the proportion of full time staff, and involve more experienced personnel from industry, construction and consultancy companies into teaching.

The KFEEUAS administration creates conditions for the professional development of the teaching staff necessary for the provision of the Programme. In general, the qualification of the teaching staff is adequate to ensure learning outcomes. However, teachers' knowledge of foreign languages has to be substantially improved. In addition, teachers should be more involved into research activities and they should more actively involve their students into that. Administration has

to put more efforts into coordination and allocation of financial resources for water-related research by approving long-term programmes and attributing specific goals.

Premises, facilities and learning resources are adequate both in size and quality at KFEEUAS. Teaching and learning equipment is updated and accessible for all students. The institution has a well-developed infrastructure of practical training and studies. However, the specialised laboratories in Hydraulic Structures have to be made available within the territory of KFEEUAS, and the number of Programme specific scientific literature in English at the library has to be substantially increased.

The College has a clearly settled students' motivation system. The students have opportunities to participate in mobility programmes. The number of outgoing students varies from two to four each year. However, the number of incoming students is very low. This clearly indicates the need to for more balanced exchange of students and teachers.

Assessment system of students' performance has been improved since the last external evaluation. However, the interviews with students revealed their poor understanding of the LOs based approach. The assessment criteria have to be contextualised and related to the expected level of academic achievement (threshold, average or excellent), applying the constructive alignment of the Programme aims, LOs, curriculum design, teaching, learning and students' assessment. This understanding has to be conveyed to all members of teaching staff, students, and stakeholders. Using active teaching/learning methods also needs to be encouraged.

Responsibilities for decisions and monitoring of the Programme implementation are clearly defined. Information on the Programme implementation is regularly analysed. The content of the Programme is annually reviewed and amendments are made if necessary. Monitoring of the Programme implementation involves all the groups of stakeholders. Professional competence of the majority of graduates meets the employers' expectations.

Many changes in the study programme were made after the last external evaluation of the institution in 2012. Students' surveys concerning study process quality and organisation of studies is now conducted regularly. Information collected during the surveys is introduced to students and teachers. However, more emphasis should be put on assessing the effectivity and efficiency of internal quality assurance measures, and linking the need for graduates on the labour market with economic sustainability of the country.

V. GENERAL ASSESSMENT

The Study Programme *Hydraulic Engineering* (state code – 653H17004) at Kaunas Forestry and Environmental Engineering University of Applied Sciences is given **positive/negative** evaluation.

Study Programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	2
2.	Curriculum design	2
3.	Teaching staff	2
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	3
	Total:	15

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

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

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

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

Grupės vadovas:

Team leader:

Prof. dr. Olav Aarna

Grupės nariai:

Team members:

Prof. dr. Judit Padisák

Prof. dr. Soon-Thiam Khu

Prof. habil. dr. Arvydas Povilaitis

Ms. Lina Šleinotaitė-Budrienė

Ms. Inga Bačelytė

**KAUNO MIŠKŲ IR APLINKOS INŽINERIJOS KOLEGIJOS
PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS *HIDROTECHNINĖ STATYBA*
(VALSTYBINIS KODAS – 653H17004) 2016-09-21 EKSPERTINIO VERTINIMO IŠVADŲ
NR. SV4-207 IŠRAŠAS**

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Kauno miškų ir aplinkos inžinerijos kolegijos studijų programa *Hidrotechninė statyba* (valstybinis kodas – 653H17004) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	2
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	3
5.	Studijų eiga ir jos vertinimas	3
6.	Programos vadyba	3
	Iš viso:	15

* 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 miškų ir aplinkos inžinerijos kolegija (KMAIK) yra vienintelė Lietuvoje institucija, suteikianti profesinio bakalauro laipsnį hidrotechninės statybos srityje. Studijų programos

Hidrotechninė statyba tikslai yra apibrėžti, aiškūs ir viešai skelbiami. Jie pagrįsti visuomenės ir darbo rinkos poreikiais. Tačiau abejotina, ar šiai programai reikalingos keturios specializacijos, kadangi studentai ne visada turi galimybę pasirinkti norimą specialybę. Darbdaviai ir kiti socialiniai dalininkai yra patenkinti absolventais. Šios programos tikslai ir numatomi studijų rezultatai atitinka studijų rūšį, pakopą ir kvalifikacijų lygį. Programos pavadinimas ir suteikiama kvalifikacija dera tarpusavyje. Programos sandara atitinka *Laipsnį suteikiančių pirmosios pakopos ir vientisųjų studijų programų bendrųjų reikalavimų aprašą*, turint omenyje kreditų skaičių, dalykų apimtį, praktinio mokymo trukmę, daktaro laipsnį ir ne mažiau kaip trijų metų praktinės veiklos patirtį turinčių dėstytojų skaičių.

Studijų turinys padeda pasiekti programos tikslus ir suteikia pakankamai platų bendrąjį mokymą bei gebėjimus, užtikrinančius konkurencingumą darbo rinkoje. Tačiau reikia tobulinti fundamentaliųjų mokslų žinias. Daugelio studijų dalykų apimtis yra trys kreditai, dėl to dalykų yra labai daug. Rekomenduojama sugrupuoti panašius dalykus, kad jų apimtis siektų penkis ar šešis kreditus.

Dėstytojai yra įvairaus išsilavinimo, turintys reikiamą kompetenciją dėstomų dalykų srityje; dėstytojų sudėtis atitinka šiai programai keliamus teisės aktų reikalavimus. Dėstytojų kvalifikacija ir skaičius yra pakankami šios studijų programos tikslams ir numatomiems studijų rezultatams pasiekti. Tačiau daugelis dėstytojų iš kitų universitetų dirba ne pilnu etatu. Visą darbo dieną dirba tik 20 proc. Hidrotechninės statybos katedros dėstytojų. Todėl primygtinai rekomenduojama didinti visą darbo dieną dirbančių dėstytojų skaičių ir kviesti dėstyti daugiau patyrusių pramonės, statybos bei konsultacinių įmonių darbuotojų.

KMAIK administracija sudaro sąlygas dėstytojų profesiniam tobulėjimui, kuris yra būtinas siekiant užtikrinti šios studijų programos įgyvendinimą. Apskritai dėstytojų kvalifikacija yra tinkama numatomiems studijų rezultatams pasiekti. Tačiau dėstytojų anglų kalbos žinios turi būti iš esmės gerinamos. Be to, dėstytojai turėtų aktyviau dalyvauti mokslinių tyrimų veikloje ir įtraukti į ją daugiau studentų. Administracija turi labiau stengtis koordinuoti ir skirstyti vandens tyrimams skirtus finansinius išteklius patvirtindama ilgalaikes programas ir nustatydamas konkrečius tikslus.

KMAIK patalpos, įranga ir metodiniai ištekliai (materialieji ištekliai) yra tinkami ir pakankami. Mokymo ir mokymosi įranga yra atnaujinta ir prieinama visiems studentams. Kolegija turi gerai išvystytą praktinio mokymo ir studijų infrastruktūrą. Tačiau specializuotos hidrotechninių konstrukcijų laboratorijos turi būti prieinamos KMAIK teritorijoje, o bibliotekoje turi būti daug daugiau su šios programos studijų sritimi susijusios specialios mokslinės literatūros anglų kalba.

Kolegija turi aiškiai nustatytą studentų skatinimo sistemą. Studentams suteikiamos galimybės dalyvauti judumo programose. Išvykstančiųjų studentų skaičius svyruoja nuo dviejų iki

keturių per metus. Tačiau labai mažai studentų atvyksta. Tai aiškiai rodo, kad studentų ir dėstytojų mainai turi būti labiau subalansuoti.

Studijų rezultatų vertinimo sistema po paskutiniojo išorės vertinimo patobulėjo. Tačiau per pokalbius su studentais paaiškėjo, kad jie nelabai supranta numatomais studijų rezultatais pagrįstą metodą. Vertinimo kriterijai turi būti derinami su kontekstu ir siejami su numatomu akademiniais pasiekimų lygiu (slenkstinis (*ribinis*), vidutinis (*tipinis*) arba puikus), taikant darnaus programos tikslų, numatomų studijų rezultatų, programos sandaros, mokymo, mokymosi ir studentų vertinimo išdėstymo metodą. Šį supratimą reikia perteikti visiems dėstytojams, studentams ir socialiniams dalininkams. Be to, reikia skatinti taikyti aktyvius mokymo ir (arba) mokymosi metodus.

Aiškiai apibrėžta atsakomybė už sprendimus ir šios programos įgyvendinimo stebėseną. Informacija apie programos įgyvendinimą nuolat analizuojama. Kiekvienais metais persvarstomas programos turinys ir prireikus atliekami pakeitimai. Programos įgyvendinimo stebėsenos procese dalyvauja visos socialinių dalininkų grupės. Daugelio absolventų profesinė kompetencija atitinka darbdavių lūkesčius.

Po paskutiniojo, 2012 metų išorės vertinimo, atlikta daug šios studijų programos pakeitimų. Dabar nuolat vykdomos studentų apklausos apie studijų proceso kokybę ir studijų organizavimą. Studentai ir dėstytojai supažindinami su apklausų metu surinkta informacija. Tačiau daugiau dėmesio reikėtų skirti vidinio kokybės vertinimo užtikrinimo priemonių veiksmingumo įvertinimui ir absolventų paklausos darbo rinkoje susiejimui su šalies ekonomikos tvarumu.

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III. REKOMENDACIJOS

1. Persvarstyti studijų programos *Hidrotechninė statyba* specializacijų su konkrečiais tikslais ir numatomais studijų rezultatais būtinumo klausimą.
2. Pertvarkyti šią studijų programą laikantis darnaus išdėstymo metodo (*constructive alignment approach*), *Inžinerijos krypčių grupės aprašo* ir taikant standartinį modulių dydį.
3. Didinti studentų gamtos mokslų ir užsienio kalbos gebėjimus, sistemingai pateikti naujausius mokslo ir technologijų pasiekimus ir tobulinti studentų verslumo bei vadybos įgūdžius, gebėjimą atlikti mokslinius tyrimus.
4. Dėstant šią studijų programą, taikyti praktinius konkrečius atvejo tyrimo ir kitus aktyvaus mokymo ir (arba) mokymosi metodus.

5. Mokyti dėstytojus geriau suprasti ir įgyvendinti darnaus išdėstymo metodą – ryšį tarp programos tikslų, numatomų studijų rezultatų, mokymo ir mokymosi bei studentų vertinimo.
6. Didinti dėstytojų kalbinius, ypač anglų kalbos, įgūdžius siekiant sustiprinti tarptautinį bendradarbiavimą, judumą ir mokslinių tyrimų veiklą.
7. Didinti pilnu etatu dirbančių dėstytojų dalį ir kviestis daugiau dėstytojų iš užsienio bei regioninių organizacijų.
8. Skatinti dėstytojus atlikti daugiau taikomųjų mokslinių tyrimų, ypač susijusių su hidrotechnine statyba ir vandens valdymu.
9. Apsvarstyti specializuotos hidrotechninių konstrukcijų laboratorijos įkūrimo kolegijos teritorijoje klausimą.
10. Bibliotekai įsigyti su šia programa susijusios specialios mokslinės literatūros ir užtikrinti laisvą prieigą prie tarptautinių mokslinių tyrimų duomenų bazių (pvz., ScienceDirect).
11. Pasiiekti, kad socialiniai dalininkai sistemingiau ir reguliariau dalyvautų programos kūrimo, tobulinimo ir vertinimo procese.

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Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

Vertėjos rekvizitai (vardas, pavardė, parašas)