STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vytauto Didžiojo universiteto
STUDIJŲ PROGRAMOS *ENERGIJA IR APLINKA*
(valstybinis kodas – 621F35001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF *ENERGY AND ENVIRONMENT* (*state code – 621F35001*)
STUDY PROGRAMME
at Vytautas Magnus University

Experts' team:

1. **Dr. Terence Clifford-Amos (team leader),** *academic*
2. **Prof. dr. Janis Spigulis,** *academic*
3. **Dr. Rynno Lohmus,** *academic*
4. **Prof. dr. Artūras Jukna,** *academic*
5. **Dr. Danas Ridikas,** *social partner*
6. **Mr Benas Gabrielis Urbonavičius,** *students' representative*.

Evaluation coordinator – Mrs Eimantė Bogdan

Išvados parengtos anglų kalba
Report language – English

Vilnius
2015

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Energija ir aplinka***
Valstybinis kodas	621F35001
Studijų sritis	Fiziniai mokslai
Studijų kryptis	Fizika
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (1,5)
Studijų programos apimtis kreditais	90
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Energetikos fizikos magistras
Studijų programos įregistravimo data	2007-02-21

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Energy and Environment***
State code	621F35001
Study area	Physical Sciences
Study field	Physics
Type of the study programme	University studies
Study cycle	Second
Study mode (length in years)	Full-time (1,9)
Volume of the study programme in credits	90
Degree and (or) professional qualifications awarded	Master in Physics of Energetics
Date of registration of the study programme	21-02-2007

CONTENTS

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 (SER) and annexes, the following additional documents have been provided by the HEI after the site-visit:

No.	Name of the document
1	Study Regulations, 2012.
2	Kokybės ir aplinkosaugos vadovas, 2013.
4	Procesų aprašai, P1-P25, 2014.
3	Įsakymas dėl dėstymo kokybės vertinimo tvarkos, 2008.
5	Įsakymas dėl studijų dalykų atestavimo tvarkos, 2013.
6	Įsakymas dėl studijų programų atnaujinimo (tobulinimo) tvarkos, 2013.

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

The study programme *Energy and Environment* is managed by the Study Programme Committee and administrated by the Department of Physics, which belongs to the Faculty of Natural Sciences at Vytautas Magnus University. The Faculty has close to 700 students, around 50 lecturers and researchers. The study programme was initiated by the international group of teachers/researchers and approved by the University Senate in February 2007 [SER 1.1.7]. The assessment of the programme has already been carried out by the Centre for Quality Assessment in Higher Education in 2009 with a granted accreditation valid until August 2015.

Due to the cross-cutting nature of the study programme, the Department of Physics cooperates with other faculties/departments for its implementation [SER 1.1.8]. The existence of special relations with the neighbouring Lithuanian Energy Institute needs to be highlighted.

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 ***06/10/2015.***

1. **Dr. Terence Clifford-Amos (team leader)** *academic*, Université Catholique de Lille/International Consultant, UK.
2. **Prof. dr. Janis Spigulis,** *academic*, University of Latvia, professor of Physics Department, Latvia.
3. **Dr. Rynno Lohmus,** *academic*, University of Tartu, Senior Research Fellow, Institute of Physics, Estonia.
4. **Prof. dr. Artūras Jukna,** *academic*, Vilnius Gediminas Technical University, Head of Department of Physics, Lithuania.
5. **Dr. Danas Ridikas,** *social partner*, Research Reactor Officer, IAEA, Austria.
6. **Mr Benas Urbonavičius,** *student member* (PhD), Kaunas University of Technology, Lithuania.

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

The aims of the study programme *Energy and Environment* are clear and well defined. They were formulated following the national and EU legislation as well as legal acts of the University and other documentation defining professional and academic requirements [SER 2.1.12]. The learning outcomes clearly correspond to Level 7 of the National and European Qualification Framework [SER2.3, Table 3]. In addition, the study programme was constantly coordinated with the changes of secondary legislation resulting from the reform of higher education in Lithuania. The programme aims were developed in compliance with general aims of the University [SER 2.3.22]. The objectives and expected learning outcomes of the study programme are available to the public online (see http://www.vdu.lt/en/studies/degree-studies/master-ma/energy-and-environment/).

The programme aims cover both academic, research, public and business aspects [SER 2.2.15], what ensures potentially a promising future of graduates in the labour market, both in public and private sector. The nine learning outcomes complement each other and clearly demonstrate the interdisciplinary knowledge and skills necessary for qualified energy physics professionals [SER 2.2.16]. The programme provides students with skills and knowledge needed to work as a middle or senior level manager in the energy and environmental areas. The perspective of the programme is multi-disciplinary and problem-oriented. This results-based strategy could be highlighted as a good practice to others.

There is clear consistency between the learning outcomes with the type and level of studies offered. In that respect, the study programme name, its learning outcomes, content and offered qualification are compatible with each other. The set of compulsory subjects is well selected and covers to the large extent the learning outcomes, e.g. "Renewable energy", "Biofuels", "Hydrogen energy" and "Hybrid energy". Some additional subjects are still possible as optional to complement the broad area of energy physics and environment, e.g. "Thermal energy" and "Sustainable energy" [SER 2.2.19]. Direct involvement of the strategic social partners such as the Lithuanian Energy Institute at different levels of the study programme (from design, to

monitoring, review and implementation) is seen as a manifest strength for the programme [SER 2.5].

2.2. Curriculum design

Both national and EU legal requirements are met. There is a clear match between the EQF and programme learning outcomes [SER 2.3.21]. The content of the subjects is consistent and the type and level of the studies are good. The scope of the study programme is sufficient to ensure the learning outcomes.

The content of the study programme is based on physical principles and will be able to provide the students with advanced professional skills. It also gives some special emphasis on innovative energy options such as hydrogen and fusion. In addition, it includes energy science and technology as well as energy economics and policy [SER 2.6.34 & 35], what is indispensable in today's energy planning and implementation strategies, being national, regional or international. Furthermore, the position of the study programme among other national programmes is critically analysed, placing it into the complementary area, i.e., with little/no duplication or overlap [SER 2.7.36].

The programme implementation is ensured through theoretical courses, practical work in the laboratories and final research project (thesis). In terms of course hours and credits, the courses are evenly distributed with the average load of 5 courses per semester, and only the last semester is devoted to the Master's thesis together with one additional course [SER 3.2.46].

The requirements for the final thesis are clear and comply with general requirements for Master's thesis in Physics. Emphasis on inclusion of a requirement for "original contribution" is acknowledged [SER 3.4.57].

The future development of the programme is also carefully addressed by presenting its strengths and weaknesses as well as potential actions to close the identified gaps, in particular finding more high-level researchers as theses supervisors (including outside the HEI), also by proposing additional introduction courses to the students who might have insufficient preparation level and by organizing seminars or short series of topical lectures to introduce emerging research relevant to the study programme.

Moreover, the study programme would profit from 2-3 additional compulsory subjects of general nature (presently available as optional) [SER 3.1.39]. Indeed, one would expect to see more general/basic subjects such as "Thermal energy" and "Sustainable energy" to become compulsory (e.g. instead of "Hydrogen energy economy" or "Plasma technologies", being very specific technology driven). Furthermore, in order to comply with the statement that "the students need a solid training in traditional fundamental disciplines (physics, chemistry, environment sciences)" [SER 2.2.18], "Environmental monitoring" could be complemented by "Environmental physics" and become compulsory instead of one of the hydrogen-related subjects, which could be moved to optional.

In addition, with the current enormous development and usage of IT, the HEI might consider including specific IT related aspects in most of the subjects, where possible. This could be achieved by developing some interdisciplinary modules within already existing topics (e.g., through the introduction to management of data bases, and the introduction to some computational tools and programmes, modelling methods and approaches and through usage of programming while performing laboratory work).

2.3. Teaching staff

The number, structure and qualifications of the teaching staff are exceptionally good and meet legal requirements. In total 11 teachers are affiliated with the programme [SER 4.1.62]. Involvement of the staff from other departments within the faculty, other faculties and the neighbouring Lithuanian Energy Institute is acknowledged.

Teachers have an average teaching experience more than 10 years and represent good distribution according to age groups (54% are aged from 36 to 50 years old). On average, each supervisor is responsible for 1-2 students for their Master Thesis project [SER 4.1.65 & 68] which is a remarkably favourable number in general.

The teachers have multiple possibilities to raise their qualifications through formally established training courses, joint national/international projects, participation in conferences and workshops and Erasmus exchange programmes. However, some staff might need to strengthen their knowledge of English as already noticed in the SER (Section 4.3, Table 12) which already includes a proposal for corrective actions. Furthermore, the HEI needs to make additional efforts to promote and implement international mobility of the staff and students as well as make efforts to invite foreign lecturers to deliver courses. For further international promulgation and broader visibility, encouraging students to write their final MSc thesis in English should be also considered.

Most of the teachers are active researchers in the field, which ensures the up-to-date teaching curricula. There is visible presence of the staff in organization of international conferences, seminars and membership in the editorial boards of international journals [SER 4.2.79]. The programme lecturers participated in 5 international and 4 nationally funded projects in the period from 2010 to 2014, which is a remarkable achievement. On the other hand, the number of scientific publications as well as presentations at international conferences has been decreasing in the last 2 years [SER 4.2.72-73]. Hoping that this is only momentary situation, special efforts need to be made to return to the very acceptable performance as reported in the period of 2010-2012.

2.4. Facilities and learning resources

The premises, facilities and other learning resources for studies are very good [SER 5.1 & 5.2] and up-to-date. Furthermore, every year working conditions are reviewed and modernization works performed if necessary. Access to as many as 300 titles of the most popular books, 20 journals on the Physics and Environmental topics as well as access to 30 scientific data bases is provided at no charge to the students and staff. Students can also use the resources of other libraries.

In general, IT services (e.g. electronic libraries and catalogues, IT based working places with internet connection as well as WIFI free zones) offered both to the staff and students comply with student demand and their culture of expectation. Furthermore, the Moodle system is in place and used both by the staff and students.

The department of Physics offers 3 laboratories for practical work undertaken by the students. The other 3 laboratories are shared by the department of Environmental Sciences. The laboratories are in general good condition; however, the department is encouraged to make additional efforts to raise the funds (e.g. participate in specific research projects, apply for

structural funds) in order to modernise/enlarge further laboratory equipment/capabilities and engage in emerging research, in addition, to hydrogen-related technologies (see below).

A few specialised laboratories and equipment are made available by the neighbouring Lithuanian Energy Institute, including the facilitated access to the Centre of Hydrogen Energy. The latter one is equipped with the state-of-the-art technological and analysis equipment available for students preparing their Master's thesis. In this context, close cooperation, the share of facilities and staff, work of joint research projects and active participation in the study programme between the Faculty and the Lithuanian Energy Institute is an excellent example of a win-win situation as to how the university should engage with the social partners. Similar practice could be recommended to other faculties.

2.5. Study process and students' performance assessment

The minimum criteria to enter the programme are well established and clear. Namely, these include requirement to have a university Bachelor degree either in Physics, Engineering, Environmental Science, Ecology or related programmes. The contest is organized by calculating weighted individual contest marks for (0.3*A) average of all the examination marks in the Bachelor's diploma supplement, (0.6*B) average of physical sciences study subjects and (0.1*C) mark of Bachelor's thesis. Resulting minimal competitive score should not be below 7. On average, half of the applicants are successful for enrolment into the programme [SER 6.1].

The students have a possibility to attend different scientific conferences and forums. Some of the students also manage to publish their research work in the international journals [SER 6.3]. In particular, participation of students in the young scientists' conferences as well as publication of their work in scientific journals is acknowledged as a great opportunity to make their first steps in basic and applied research related to the study programme. Furthermore, access to the neighbouring laboratories of the Lithuanian Energy Institute is a splendid opportunity for the students to establish their contacts, enrol into the joint research projects, and look for the job opportunities after graduation.

The students have a chance to explore their future career opportunities thanks to the support provided by the Youth Career Centre as well as through direct agreements between the Faculty and social partners.

During the site visit interviews, the Review Team has learned that the majority of graduates meet the programme providers' expectations in particular when it comes to finding a job after the graduation. Indeed, out of 42 graduates (2010-2014), only 2 remained unemployed. The rest either were working in various sectors, or were admitted to doctoral studies (7 students) [SER 6.8].

Since 2013, the programme is taught in English, giving a chance for international applicants to join the studies. Both students and lecturers during the site visit interviews have shown proficiency in English, which is acknowledged here. Mobility opportunities do exist but usage needs to be further promoted and strengthened for the programme students [SER 6.4].

The Office for Student Affairs, which is responsible for students' social support, allocates the dormitory, administrates social support, scholarships, or subsidies. Multi-sport facilities are also available for the students through the Sport Centre. The relevant information is available through the First Class intranet system, bulletin boards and websites.

The assessment of students' performance is clear and publically available through the Study Regulations (2012) [SER 6.6]. All subject descriptions of the study programme include both the expected learning outcomes (competences), and the order of assignments and criteria for evaluation of student achievements. It should be noted inclusively that the analysis of the student opinion on this issue is also undertaken.

However, there is one aspect the Review Team finds somewhat ambiguous. Namely, the "Research project" (6 credits) during the 2nd semester which might cover some materials to be included also in the final "Master's thesis" (24 credits) taking place during the 3rd and last semester [Table 5 of SER 3.1.39]. This will happen unavoidably if the same topic is chosen also for the final Master's thesis. Therefore, in order to exclude any potential repetition/duplication the HEI is recommended to consider implementing changes in requirements/evaluation of the final Master's thesis, so that there is no formal issue in attributing the credits twice for some parts of the same work. For example, the thesis supervisor should ensure that the final evaluation for 24 credits is exclusively on the new part of the final report in order to avoid double-assessment.

2.6. Programme management

The programme is clearly administered and properly managed. In 2013, the University introduced a system of quality management confirmed by certificates of ISO 9001:2008 and ISO 14001:2004 management systems [SER 1.1.3]. In practice it includes clear procedures and relies on qualified and experienced staff able to perform annual programme assessments, resulting in identification of possible shortcomings and proposals for improvement. In this respect, the University administration is encouraged to finalise the Quality Assurance Handbook (presently in draft) as well as to ensure that the quality assurance and quality control process reaches down to faculty and programme level.

Internally, the Quality and Strategy Office is operational and implements the Teaching Quality Assessment Policy through the Centre for Quality of Studies [SER 7.1.121]. At the level of the programme, most of the information is collected through bi-directional feedback: students ←→ teachers. Such efforts can be only effective if the students' participation is sufficiently high, which from information gleaned during on-site interviews, seems not to be the case. Actions for improvement already planned and are acknowledged by the Review Team [SER 7.3].

Other qualitative mechanisms, such as forums of teachers, students, alumni and social partners on the study quality issues are used [SER 7.1.127]. It was noted from the SER (Section 7.1.127) that teachers, students and social partners are encouraged to contribute to this process. Furthermore, formation of initiating groups for the solution of specific problems, the organization of joint activities with the social partners and strategy discussions through open forums can be duly acknowledged here. [SER 7.1.120]. On the other hand, the Review Team recommends that, in addition to already existing excellent relations with the Lithuanian Energy Institute, the HEI stronger integrates with other social partners and alumni. This requires development and implementation of two-way strategy, i.e. able to initiate constructive dialogue/relations from the faculty as well as create a formal framework in order to receive input/feedback from outside stakeholders.

2.7. Examples of excellence

- Close cooperation, share of facilities and staff, work on joint research projects and active participation in the study programme between the Faculty and the Lithuanian Energy Institute is an excellent example of a win-win situation how the university is engaging with the social partners. Similar practice could be recommended to other faculties
- Impressive subject content and extensive use of Moodle both by staff and students. These include complete course plans (study, practical, theoretical materials), where each course subject taught has its own electronic conference thread, where the aforesaid materials can be found. The teacher of the specific subject is responsible for the collection and preparation of such materials as well as their delivery to the students.

III. RECOMMENDATIONS

1. Revise the curricula and consider some exchanging between a few compulsory and optional courses. The compulsory topics should be of more general nature, while specific/targeted courses can become optional, e.g. “Environmental monitoring” could be complemented by “Environmental physics” and become compulsory instead of one of the hydrogen related subjects (moved to optional).

2. Consider adding IT aspects in most of the subjects, when possible. This could be achieved by developing some interdisciplinary modules within already existing topics or practical laboratory work.

3. Consider implementing changes in requirements/evaluation of “Research project” (6 credits) and “Master’s thesis” (24 credits), so there is no formal issue in attributing the credits twice for some parts of the same work. In practice, the thesis supervisor could ensure that the final evaluation for 24 credits is exclusively on the new part of the final report in order to avoid double-assessment.

4. Strengthen international mobility of the staff and students as well as make efforts to invite foreign lecturers to deliver courses. For further international promulgation and broader visibility, encourage students to write their final MSc thesis in English.

5. Improve the integration with social partners and alumni is recommended (in addition to already existing excellent relations with the Lithuanian Energy Institute). This requires development and implementation of two-way strategy, i.e. able to initiate constructive dialogue/relations from the faculty as well as receive input and feedback from outside stakeholders.

6. The Department should be encouraged to make additional efforts to raise the funds (e.g. participate in specific research projects and apply for funds, including structural funds) in order to modernise further laboratory equipment and engage in emerging research, in addition to hydrogen-related technologies.

7. The University administration is encouraged to finalise the Quality Assurance Handbook (presently in draft) as well as to ensure that the quality assurance and quality control process reaches down to faculty and programme levels.

IV. SUMMARY

First of all, the Self Evaluation Team needs to be congratulated for the excellent work achieved in preparation of the superb quality SER, which demonstrates professionalism and dedication of the involved team members to the tasks they were given to achieve. It also confirms that internal quality-assurance policy and procedures are in place at this HEI.

The study programme aims and learning outcomes are sound in their professional, technical and social domains they cover. The emerging subjects and interdisciplinary of the study programme is its strength and attractiveness, confirmed by well-motivated lecturers, students, alumni as well as strongly-engaged social partners.

The content of the programme is again sound in its broad topics and is especially relevant to country's national strategy involving governmental institutions, local industry and business. The Lithuanian Energy Institute is one of such stakeholders whose interest in the programme is considerable.

Teaching staff (including those from social partners and other departments) are talented and recognized members, whose research work receives high index scores, including modern technologies like hydrogen storage and innovative materials. They are active in conferencing both nationally and internationally and are well known in their fields, and the programme benefits from their academic achievements.

Concerning laboratory resources, they are all considered by the Review Team to be excellent; in particular they were impressed with the Centre for Hydrogen Energy which is accessible to students for their selected research topics.

Students are largely happy with the programme, and their present views are strongly backed up by a positive vision from alumni. Proficiency in English has become a traditional pattern for this University, both for lecturers and students. Furthermore, student academic support in many ways is very good, both academically and socially.

The programme is clearly administered and properly managed thanks to well established procedures as per certificates of ISO 9001:2008 and ISO 14001:2004 management systems. Its implementation relies on qualified and experienced staff able to perform annual programme assessments, resulting in identification of possible shortcomings and proposals for improvement. In addition, other qualitative mechanisms, such as forums of teachers, students, alumni and social partners on the study quality issues are used.

Notwithstanding these positives, there are some matters in need of attention. These are detailed in the recommendations under Section III.

V. GENERAL ASSESSMENT

The study programme *Energy and Environment* (state code – 621F35001) at Vytautas Magnus University is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	4
2.	Curriculum design	3
3.	Teaching staff	4
4.	Facilities and learning resources	4
5.	Study process and students' performance assessment	3
6.	Programme management	3
	Total:	**21**

*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:	Dr. Terence Clifford-Amos
Grupės nariai: Team members:	Prof. dr. Janis Spigulis
	Dr. Rynno Lohmus
	Prof. dr. Artūras Jukna
	Dr. Danas Ridikas
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Vertimas iš anglų kalbos

VYTAUTO DIDŽIOJO UNIVERSITETO ANTROSIOS PAKOPOS STUDIJŲ PROGRAMOS *ENERGIJA IR APLINKA* (VALSTYBINIS KODAS – 621F35001) 2015-11-27 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-308 IŠRAŠAS

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VI. APIBENDRINAMASIS ĮVERTINIMAS

Vytauto Didžiojo universiteto studijų programa *Energija ir aplinka* (valstybinis kodas – 621F35001) vertinama **teigiamai**.

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

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2.7. Išskirtinės kokybės pavyzdžiai

- Glaudus bendradarbiavimas, dalijimasis infrastruktūra ir darbuotojais, darbas prie jungtinių tiriamųjų projektų ir aktyvus dalyvavimas studijų programoje, kurią fakultetas vykdo kartu su Lietuvos energetikos institutu, – tai puikiai universiteto bendradarbiavimą su socialiniais partneriais iliustruojančios situacijos, kai laimi abi pusės, pavyzdys. Panašią praktiką rekomenduojama taikyti ir kitiems fakultetams.
- Dalykinis studijų programos turinys – įspūdingas, o dėstytojai ir studentai aktyviai naudojasi sistema „Moodle“. Paminėtini ir išbaigti mokomojo kurso planai (studijų, praktinė ir teorinė medžiaga), kai kiekvieno dalyko kursas turi ir individualų elektroninės konferencijos kanalą, kuriame galima rasti minėtosios medžiagos. Už jos rinkimą, rengimą ir išdėstymą studentams atsakingas konkretaus dalyko dėstytojas.

IV. SANTRAUKA

Visų pirma savianalizės grupę reikėtų pasveikinti už puikų darbą, atliktą rengiant aukščiausios kokybės savianalizės suvestinę – joje atsispindi dirbusių grupės narių profesionalumas ir atsidavimas užduotims, kurias jiems buvo patikėta atlikti. Tai patvirtina ir faktą, kad šios aukštojo mokslo įstaigos vidinė kokybės užtikrinimo politika ir procedūros veikia tinkamai.

Studijų kokybės vertinimo centras

Studijų programos tikslai ir studijų rezultatai apimamų profesinių, techninių ir socialinių sričių požiūriu yra tinkami. Nauji dalykai ir studijų programos tarpdisciplinišKumas – tai jos stiprybė ir patrauklumas, kurį dar labiau sustiprina gerai motyvuoti lektoriai, studentai, alumnai bei aktyvūs socialiniai partneriai.

Programos turinys – vėlgi tinkamas, platus jo temų ratas, be to, jis atitinka šalies nacionalinę strategiją dėl valstybės institucijų, vietos pramonės ir verslo. Lietuvos energetikos institutas – vienas iš tokių socialinių dalininkų, kurio interesas šioje studijų programoje aiškiai pastebimas.

Dėstytojai (įskaitant socialinių partnerių ir kitų katedrų) – talentingi ir pripažinti, itin aukštai vertinamas jų mokslinis tiriamasis darbas, įskaitant vykdomą šiuolaikinių technologijų, pavyzdžiui, vandenilio laikymo ir inovatyvių medžiagų, srityje. Jie aktyviai dalyvauja šalies ir tarptautinėse konferencijose, yra gerai žinomi savo srities mokslininkai, todėl studijų programai jų akademiniai pasiekimai neabejotinai išeina į naudą.

Laboratorinius išteklius ekspertų grupė laiko puikiais; ypač didelį įspūdį palieka Vandenilio energetikos technologijų centras, kuriame studentai gali dirbti prie savo pasirinktų tyrimo temų.

Studentai šia studijų programa labai patenkinti, jų dabartinėms nuotaikoms antrina ir teigiami alumnų atsiliepimai. Sklandžiai mokėti anglų kalbą jau tapo įprasta tiek šio universiteto dėstytojams, tiek studentams. Be to, akademinė ir socialinė pagalba studentams daugeliu atvejų yra labai gera.

Studijų programa yra aiškiai administruojama, jos vadyba – tinkama, nes procedūros gerai tvarkomos pagal ISO 9001:2008 ir ISO 14001:2004 vadybos sistemų pažymėjimus. Jos įgyvendinimo pagrindą sudaro kvalifikuoti ir prityrę darbuotojai, gebantys atlikti metinius studijų programos vertinimus, – tai leidžia įvardyti galimus trūkumus ir pateikti pasiūlymų dėl patobulinimų. Be to, naudojami ir kiti kokybiniai mechanizmai, pavyzdžiui, dėstytojų, studentų, alumnų ir socialinių partnerių forumai, skirti studijų kokybės klausimams aptarti.

Nepaisant išvardytų teigiamų dalykų, yra ir dėmesio reikalaujančių klausimų. Jie išsamiau nagrinėjami III skyriaus rekomendacijose.

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III. REKOMENDACIJOS

1. Peržiūrėti studijų programos sandarą ir apsvarstyti kelių privalomųjų ir pasirenkamųjų dalykų pakeitimus. Privalomosios temos turėtų būti bendresnio pobūdžio, o specifiniai arba tiksliniai dalykai galėtų tapti pasirenkamaisiais, pvz., dalykas „Aplinkos stebėsena“ galėtų būti papildytas dalyku „Aplinkos fizika“ ir tapti privalomuoju vietoje vieno su vandeniliu susijusio dalyko (perkelto į pasirenkamuosius).

2. Esant galimybei, apsvarstyti, kaip daugumą dalykų papildyti informacinių technologijų (IT) požiūriu. To galima pasiekti kuriant tarpdisciplininius modulius iš jau esamų temų ar praktinių laboratorinių darbų.

3. Apsvarstyti, kaip įgyvendinti tiriamojo projekto (6 kreditai) ir magistro baigiamojo darbo (24 kreditai) reikalavimų ir vertinimo permainas, nes nėra jokios oficialiai pripažintos praktikos dukart skirti kreditų už kai kurias to paties darbo dalis. Praktikoje, siekiant išvengti dvigubo vertinimo, magistro baigiamojo darbo vadovas galėtų galutinį 24 kreditų įvertinimą skirti tik už naują baigiamojo darbo dalį.

4. Stiprinti dėstytojų ir studentų tarptautinį judumą ir stengtis prikviesti skaityti paskaitų lektorius iš užsienio. Siekiant plačiau reklamuotis ir būti geriau matomiems tarptautinėje arenoje, reikia skatinti studentus magistro baigiamuosius darbus rašyti anglų kalba.

5. Rekomenduojama pagerinti socialinių partnerių ir alumnų integraciją (be jau esamų puikių santykių su Lietuvos energetikos institutu). Tam reikia sukurti ir įgyvendinti dvikryptę strategiją, t. y. inicijuoti konstruktyvų dialogą ar santykius iš fakulteto pusės ir gauti indėlį bei grįžtamąjį ryšį iš išorės socialinių dalininkų.

6. Katedra skatinama labiau stengtis pritraukti lėšų (pvz., dalyvauti tam tikruose mokslo tyrimų projektuose ir teikti paraiškas finansavimui, įskaitant struktūrinių fondų lėšas, gauti), kad galėtų toliau modernizuoti laboratorinę įrangą ir dalyvauti pradedamuose moksliniuose tyrimuose, įskaitant susijusius su vandenilinėmis technologijomis.

7. Universiteto administracija raginama užbaigti rengti kokybės užtikrinimo vadovą (šiuo metu yra tik jo projektas) ir užtikrinti, kad kokybės užtikrinimo ir kokybės valdymo procesas pasiektų fakulteto ir studijų programos lygį.

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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)