



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

ŽEMAITIJOS KOLEGIJOS
ELEKTROS ĮRENGINIŲ EKSPLOATAVIMO
PROGRAMOS (653H62001)
VERTINIMO IŠVADOS

EVALUATION REPORT
OF *ELECTRICAL SYSTEMS MAINTENANCE*
(653H62001) STUDY PROGRAMME
at ŽEMAITIJA COLLEGE

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Išvados parengtos anglų kalba
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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

| | |
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| Studijų programos pavadinimas | Elektros įrenginių eksploatavimas |
| Valstybinis kodas | 653H62001 |
| Studijų sritis | Technologijos mokslai |
| Studijų kryptis | Elektronikos ir elektros inžinerija |
| Studijų programos rūšis | Koleginės studijos |
| Studijų pakopa | Pirmoji |
| Studijų forma (trukmė metais) | Nuolatinė (3), iššęstinė (4) |
| Studijų programos apimtis kreditais | 180 ECTS |
| Suteikiamas laipsnis ir (ar) profesinė kvalifikacija | Elektros inžinerijos profesinis bakalauras |
| Studijų programos įregistravimo data | 2009-08-31, Nr. 1-73 |

INFORMATION ON EVALUATED STUDY PROGRAMME

| | |
|---|---|
| Title of the study programme | Electrical systems maintenance |
| State code | 653H62001 |
| Study area | Technology science |
| Study field | Electronics and electrical engineering |
| Kind of the study programme | College studies |
| Study Cycle | First |
| Study mode (length in years) | Full-time (3), part-time (4) |
| Volume of the study programme in credits | 180 ECTS |
| Degree and (or) professional qualifications awarded | Professional Bachelor of Electrical Engineering |
| Date of registration of the study programme | 2009-08-31, Nr. 1-73 |

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The Centre for Quality Assessment in Higher Education

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I. INTRODUCTION

The study programme *Electrical Systems Maintenance* is offered by Žemaitija College in its Rietavas Faculty situated in Rietavas, Žemaitija region (in Western Lithuania). It is the only study programme under the study field *Electronics and Electrical Engineering* offered by the College.

The programme was introduced 8 years ago under the name *Maintenance of Electrical Equipment* and its management was committed to the Engineering department. In 2009, a new Energy department was founded which took over the management. In 2010, the programme was registered under the current name *Electrical Systems Maintenance*.

The programme has not experienced an external evaluation as yet. Consequently, this Report is historically first for the programme.

The basis for this evaluation was provided by the Self-Evaluation Report for the study programme prepared by the workgroup from October 15, 2011 to December 30, 2011 and issued on April 12, 2012. The Report (including Annexes) is prepared pursuant to all relevant legal requirements as set by Lithuanian regulations. It could be only noted that the Report presents some strengths of the programme in a bit overestimated mode, when normal adequacies to requirements are qualified as highly as strengths.

The international team visited the Žemaitija College on October 18, 2012 where gained additional information and examined a lot of points presented in the Self-Evaluation Report. It was the first evaluation of the study programme from its start.

Abbreviations used in this Report:

HEI - Higher Education Institution

SER – Self-Evaluation Report

ZK – Žemaitija College

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The study programme *Electrical Systems Maintenance* is definitely based on both public and labour market needs. In the recent years, various mass media sources have promoted the future market demand for professionals of electrical energetics in Lithuania in the coming decade. The solid survey conducted by the analytical Lithuanian magazine *Veidas* (2012, February issue) has placed the professionals of electrical engineering on the second place in the top list of most requested professions in Lithuania, and on the ninth place abroad. The regional need for the programme is also evident. Majority of students from Žemaitija region choose this programme in Rietavas instead of alternative programmes offered by competing colleges in cities Klaipėda and Šiauliai situated on the margins of the same region. The industry interests in the programme implementation were confirmed by the employers and the students-electricians who often came for part-time studies encouraged by their employers. Finally, the public expectations from the programme are evidently represented by the policy of Lithuanian Government which provides the state-funded places both for full-time (3 years) and part-time (4 years) students.

The study programme aims and learning outcomes well comply with academic and professional requirements. The name of the programme matches its learning outcomes and the qualifications offered. The programme is publicly accessible in 4 major forms:

- 1) internet space as on the webpage of the College at <http://www.zemko.lt> and on national portal for potential applicants – AIKOS (Open System for Informing, Counselling and Guiding);
- 2) publication *Admission to Lithuanian Higher Education Institutions* (issued by the Ministry of Education and Science) and printed promotional materials issued by the College;
- 3) meetings with the representatives of the College are arranged at secondary schools or gymnasiums to inform future students about the study programmes and the procedure for the admission to the College. Visits to the College are also paid by groups of pupils from the urban or regional schools. Open Days is one of events assigned to this category;
- 4) The television of the Telšiai region broadcasts promotional videos about the studies.

The programme aims – namely those 5 given in the Table 2 – are defined clearly. The learning outcomes are given in adequate number (14, i.e. not too much) and their definitions are well-reasoned. The interrelation between the study aims, learning outcomes and the study subjects providing these outcomes is consistent.

The purpose of the programme is also clearly defined (points 20-23 in the SER). Specifically, it could be pointed to that emphasis on practical skills was not explicitly expressed. Anyway, such skills are intrinsic for the professional bachelor qualification as they distinguish it from academic bachelor level.

The study programme provides 2 specializations: *Electrical Equipment and Networks* and *Automated Control of Electrical Equipment*. Nevertheless, the specialization-specific aims and learning outcomes are not distinguished from the aforementioned 5 aims and 14 outcomes.

It could be noted that aims of subject groups enumerated in the point 24 of the SER seem to be redundant (aim of general subjects, aim of social science, etc) and to some extent overshadowing the study aims.

We found that some learning outcomes could be specified with the label as “general abilities”, e.g. to understand intellectual values (outcome No14). Also the concept of transferable skills would be sound to present as well.

It is very positive that the study aims at the establishment and management of own business. Nevertheless, formally, as regards the study aim “*To develop skills necessary for the*

organisation of operations of a business company” and the related outcomes No 9 and 10, it is not evident that it refers to own business offering electricity system/grid related services.

Finally, list of study subjects ensuring for the learning outcome No 14 (“*To understand intellectual values – creativity, motivation and responsibility*”) is too short (*Sociology, Social Psychology*). This list is missing subject of engineering field.

2. Curriculum design

The curriculum design of the programme is reasoned and meets the legal requirements. The programme volume is 180 credits (ECTS) or 4800 academic hours and it corresponds to the bottom level required by the national legislation. The volume consists of the following components:

- a) general college subjects, 15 credits (the respective legal provision stipulates not less than 15);
- b) basic subjects of the engineering , 101 credits, covering:
 - social sciences, 12 credits;
 - general subjects of theoretical basics of engineering, 18 credits;
 - general subjects of technical basics of engineering, 42 credits;
 - basic subjects of study field, 29 credits;
- c) subjects of specialization, 16 credits;
- d) internships, 30 credits;
- e) final thesis, 9 credits (meeting the requirement “not less than 9”);
- f) elective subjects, 9 credits;

and it totals as much as 180 credits. Specifically, the items (b)–(e) are assigned to subjects of the study field, making up 156 credits (meeting the requirement “not less than 135”).

When split to study form, the programme consists of theoretical classes, practical work, individual work (self-study), and tutorial and assessment which take 814, 1660, 1924 and 402 hours respectively. Thus share of total practical training is 34.6 % of all academic hours thus meeting the respective legal requirement (“not less than one third”).

The study subjects are spread evenly across the semesters. Each semester gives 30 credits and covers maximum 7 subjects. The latter is in conformity with the requirement "not more than 7 subjects per semester" (for full-time studies).

The study plan can be considered as coherent one. Also the time sequence of subjects (their interrelation) is quite logical. The subjects are arranged in the manner when the knowledge and skills previously acquired in other study subjects are required as obligatory preparation subjects for the studies of new subjects.

The subject descriptions are given in good format and adequate content. The syllabi are presented through topics which characterize the subject’s scope, comprehensiveness, coherence and state-of-the-art. The syllabi are provided with the learning outcomes of the subjects. These outcomes completely justify the programme’s learning outcomes. The subject descriptions have good annotations.

The scope of the curriculum is sufficient to ensure learning outcomes. The content of the programme reflects the latest achievements in science and technologies to sufficient extent. Nevertheless, there is also a sufficient space for coverage of such achievements in a number of

subject descriptions (i.e. their topics). For instance, smart technologies, smart grids and distributed generation are not covered.

As regards shortages of the curriculum, two ones could be specified:

- 1) all subject descriptions are missing references in English;
- 2) curriculum as a whole seems not to adequately promote the applied research.

As for small inconsistencies, we could point to the following findings;

- a) it seems that the learning outcome No 14 “*To understand intellectual values – creativity, motivation and responsibility*” is rather weakly justified by the topics of subjects enabling this outcome (subjects “Sociology” and “Social Psychology”, see SER, p.9);
- b) there are some cases when topics within the syllabi of the subject description are not disclosed, e.g.
 - subject “Maintenance and Repair of Electrical Equipment“ has topic No 1 “Reliability of electrical equipment and causes of faults“ without any description (Annex 1, p.79);
 - subject “Social Psychology” has topic No 6 “Concept, objectives and tasks of social psychology“ without any description (Annex 1, p.5);
 - subject “Management” has topic No 5 „Organisation of the introduction of innovations“ without any description (Annex 1, p.22);
- c) Similarly to (b), some topics within the syllabi of the subject description have formally a description but it is the copy-paste of the topic title. e.g.
 - subject “Maintenance and Repair of Electrical Equipment“ includes topic No 9 „Operation of illumination and irradiation equipment“ which is disclosed as “*Operation and repair of illumination equipment. Operation and repair of irradiation equipment*“. Also its topic No 10 „Operation of electrical heating equipment. Maintenance and repair of lifting equipment“ is followed by the description „*Maintenance and repair of heating elements. Maintenance and repair of lifting electromagnets*“ (Annex 1, p.80);
 - subject “Occupational Safety“ includes topic No 6 „Scope of tests and measuring“ is disclosed as “*General concepts; scope of tests; scope of measuring*“ (Annex 1, p.64);
 - subject “Management“ includes topic No 2 „Conditions of company business and the implementation of build-up stages“ is disclosed as “*Conditions of company business. Implementation of company build-up stages*“ (Annex 1, p.21);
- d) subject “Maintenance and Repair of Electrical Equipment“ has inadequate description of topic No 7 "Operation and repair of electrical equipment control and protection units". It is described as “*Operation and repair of illumination equipment. Operation and repair of automatic switches, contactors and magnetic starters*“. Here the 1st item “*Operation and repair of illumination equipment*“ is undue as it is found in the respective description of item No 9 (Annex 1, p.80);
- e) two subjects have practically the same annotations and objectives in their descriptions, namely „Technological Process Automation and Control” and „Technological Process Control” (Annex 1, p.97 and p.88). Their distinction should be made more clear;
- f) annotation of subject description “Automation Micromachines“ is a bit inconsistent, e.g. *Electrical machines differ from the general-purpose electrical machines by....* (Annex 1, p.104);

- g) subject “Electrical Equipment and its Installation” (semester 4) is missing "Electrical Machines" (semester 3) as obligatory preparation subject (Annex 1, p.75);
- h) subject “Power facilities of a Company” in entry “Required preparation for the study of the module“ points to the non-existing subject “Electrical Equipment” (Annex 1, p.91);
- i) eligible subject “Mobile Technology” has only one item of literature. Furthermore, it is inaccessible in Lithuanian libraries (Annex 1, p.141);
- j) a number of subject descriptions offer the out-to-date literature (and even in Russian language which is unclear for current students in Lithuania), e.g.
 - subject “Electrical Machines“ suggests literature items from 1969 and 1989;
 - subject “Power Supply” – one item from 1979;
 - subject “Electrical Drive” – items from 1979 and 1988;
 - subject “Occupational Safety” – one item from 1985;
 - subject “Technological Process Control” – items from 1988 and 1990;
- k) general subjects as “Sociology”, “Social Psychology”, “Basics of Economics”, “Management” and “Law” are not sufficiently related to the specificities of electricity sector.

3. Staff

The staff providing the programme is in conformity with legal requirements. All the teachers have a Master’s degree and their qualification is sufficient to implement the aims of the study programme and achieve the intended learning outcomes.

As for the proportion of scientists, there are 3 teachers with scientific degree (Ph.D.), namely Rimantas Dapkus, Kęstutis Navickas and Audrius Žunda, all 3 being visiting teachers from other Lithuanian HEIs. As a certain inconsistency, there is the 4th scientist, prof. Vytenis Jankauskas, in the list of programme staff (Annex 2, Table 1), but his responsibilities in the ZK are not given in his CV (Annex 3) and, similarly, his teaching hours are not given neither in Table 3 *Teachers’ annual pedagogical load in 2006-2011* (Annex 2).

The study volume of their subjects taught by the aforementioned scientists takes as much as 10.25 % of total study volume in the subject field thus matching the legal requirement for “Min. 10 % of study field subjects’ volume must be taught by scientists”. Specifically, it was rather complicated to ascertain it since the teaching load of Rimantas Dapkus was not included into the Table 3 *Teachers’ annual pedagogical load in 2006-2011* (Annex 2).

Among the teachers of the study programme, 96.42% of persons have pedagogical and practical professional experience. In this sense, they meet the legal requirement for “> 50% of staff should have min. 3 years practical experience matching to the subjects they teach”. They are well familiar with the culture and requirements of the College and successfully apply efficient methods of teaching. It could be noted that one highly experienced practitioner Pranas Pocius, former dispatcher of Distribution Network Operator, makes a great contribution to the programme using his unique practical knowledge to make the study programme attractive and the specific subjects interesting and comprehensible for the students.

The number of teachers (25 teachers for app. 80 students) is sufficient to ensure learning outcomes. Their teaching loads are distributed in conformity with guidelines confirmed by the Director of ZK.

As regards teaching staff turnover, it is quite acceptable. The mean age of local (i.e. permanent) teachers does not exceed 50 years.

The college administration takes care for the professional development of the teaching staff necessary for the provision of the programme. From the teachers' side, their engagement in qualification-upgrade activity is good as regards training courses, participation in scientific conferences, internships, seminars. It is seen from the subsection "Professional experience record" of CVs (Annex 3). Incidentally, such a sub-section is missing for the visiting teacher Rimantas Dapkus.

As for professional development via scientific/applied research, the situation in general is good, with distinct contribution of the visiting scientists. The inventory or scientific/applied research activities is presented in the subsection "Scientific, artistic and other relevant activities" of CVs (Annex 3). As it appeared, this subsection was not completed (blank entries left) in 5 CVs (Rimas Jocys, Virginija Mačiulaitienė, Laima Nagevičienė, Danielius Riepšas and Dalia Vaičekauskaitė-Andrulienė). Moreover, this subsection was not included into 3 CVs (Auksė Puškorienė, Ksaveras Turskis and Andrej Pavlovskij).

The teachers are highly professional in methodology of their subjects. As regards publication of own teaching aids, the situation is mediocre.

The teachers' international mobility under exchange programmes is weak. It is determined by the fact that teachers have insufficient English communication skills and could not teach the incoming students under student mobility programmes.

4. Facilities and learning resources

The programme students have good premises and facilities for studies, both in their size and quality.

A number of laboratories have been renovated, reequipped and modernized in the last 5 years using the funds from Privatisation Fund, special funds of the College and funds from the project commissioned by the Ministry of Science and Education (*Development of the Studies Infrastructure of the Žemaitija College in the Field of Technological Sciences*). The scope of this reengineering seems to be large with respect to the rather limited amount of total investment cost amounting to 457,000 Lt (132,000 €). In result, majority of laboratory facilities are approached to the up-to-date level but there are still some ones, which should be updated.

The proportion between laboratory works with physical equipment and those with simulation software seems to be rational. It could be noted that programme students use *Auto CAD Electrical* and *CADS Planner* software.

As for training facilities used during professional internships, they are accessed on cooperation basis mostly in the companies involved in the installation and operation of electrical equipment (see SER, paragr.99). Here one agreement seems to be of particular relevance – that signed with of AB LESTO (Lithuanian Distribution System Operator), namely its Klaipėda Regional Division. Nevertheless, the companies with other than aforementioned profile should also be addressed – those engaged in industrial technology processes. Their installations are necessary for students under specialization *Automated Control of Electrical Equipment*.

The laboratory equipment should be more used for applied research applications by teachers teaching the electricity-related subjects.

The laboratories have no distinctive names, e.g. chemistry room or physics room, and plates with the written names at the entrance to the laboratories.

The library, including its reading hall, is modern and provides adequate textbooks and other learning resources for programme students. New literature is regularly purchased and is accessible, and the adequate databases are offered. Nevertheless, the literature in English for the study programme is practically not compiled. We could also observe that library's working hours as offered until 18 o'clock (on Mon.-Thurs.) seem to be too short.

The teacher proceed putting their teaching aids into electronic learning resources and the study subjects are increasingly offered in the internet space, for student self-study needs.

5. Study process and student assessment

The admission requirements are well-founded and clear. Nevertheless, in general, the requirements do not play any crucial role, because there is no real competitive admission: the students having rather low examination marks (and course marks) are enrolled, with the lowest entrance grades as 2.2–2.8 (in the scale of 20 points). The programme entrants virtually do not include female students, partly to the fact that schoolgirls are not considered as a targeted candidate group. Altogether, the admission is irregular (uneven) and the number of student is too small.

Organization of the study process ensures an adequate provision of the programme and the achievement of the learning outcomes.

The assessment system of students' performance is clear, adequate and publicly available. The monitoring of students academic achievements is performed permanently carried out. The Department of Studies presents summaries of records, which illustrate the averages of students' marks.

The HEI ensures an adequate level of academic and social support. The students with weak basics in mathematics, physics and chemistry are given additional consultancies.

Students are provided with favorable conditions to reset examinations. Less successful students have the opportunity to get a pass for the courses they failed within a week following the examination session.

The climate in HEI is good, both from programme students' and staff viewpoints.

The quality of final thesis seems to be good.

Students have limited opportunities to participate in student mobility programmes. Externally, it is determined by unfavorable college-specific situation common for all colleges – the first and third year students are not eligible for exchanges (the first are still not prepared to learn profession-specific subjects on exchanges – and legally not eligible for Erasmus programmes, while the latter should focus on preparation for final theses).

On the other hand the students themselves are not enthusiastic to go for exchanges. Furthermore, the Professional English of electrical systems and automation is practically difficult and majority of students have insufficient skills to study in English.

In general, the study process performs effectively.

6. Programme management

The study programme is coordinated by the Energy Department. Meetings of the Department discuss and approve detailed subject syllabi, objectives of subject examinations, objectives of term papers, topics and objectives of theses, consider learning outcomes and take decisions on adjustments in study subject syllabi. The existing programme management structure (including faculty and College administration) works as informal Study Programme Committee, with responsibilities allocated clearly.

The Dean of the Rietavas Faculty and the Head of the Energy Department are responsible for regular assessment of the study programme of Electrical systems Maintenance.

In order to involve social partners in the improvement of the study programme, the HEI carries out systematic surveys of employers in respect of theoretical knowledge acquired and the level of practical skills of the students and graduates.

The study programme implementation is observed and discussed on regular basis. For instance, the former specialization of the study programme, *Automotive Electrical Equipment*, was cancelled due to poor demand after

- discussion with social partners,
- business visits of teachers to companies UAB Philips Morris Lietuva, UAB Pieno žvaigždės, UAB Žemaitijos pienas, UAB Vičiūnai, UAB Stumbras, etc. which operate automated equipment control lines,
- meetings with the management and specialists of the companies

and it was decided to replace it with the specialization of *Automated Control of Electrical Equipment*.

The students' participation in the programme implementation is evident. Taking into consideration the feedback from the students concerning the lack of practical skills in computer-aided electrotechnical drawing, the scope of the study subject of "Computer-Aided Design of Electrical Circuits" was increased from 3 to 7 credits and the title was changed to the "Computer-Aided Design".

The programme's implementation is supported by Quality Assurance System of ZK represented by the Main Team of Quality Assurance in College Activities and working groups formed when needed.

Nevertheless, the study programme committee as a formal unity is not established.

III. RECOMMENDATIONS

1. Specialization-specific aims and learning outcomes could be distinguished.
2. Specifically, learning outcome No 14 “*To understand intellectual values – creativity, motivation and responsibility*” is rather weakly justified by the topics of subjects enabling this outcome (subjects “Sociology” and “Social Psychology”).
3. Curriculum as a whole could more evidently promote the applied research for students.
4. Some subject descriptions could be a bit adjusted.
5. General subjects as “Sociology”, “Social Psychology”, “Basics of Economics”, “Management” and “Law” could be more related to electrical world.
6. College administration should encourage the teachers to get involved into the applied research activities.
7. College administration should encourage the teachers to continue studies on Ph.D. candidate (post-graduate) studies.
8. College administration and programme staff should invite the incoming foreign teachers for programme students.
9. Teachers should improve their English language skills. The College administration should encourage them to attend English learning courses.
10. Student should be encouraged/motivated to read professional literature in English.
11. The Energy department should intensify the efforts attracting secondary school pupils.
12. Both teachers' and students' mobility under exchange programmes should be extended.
13. Some laboratory facilities should be updated.
14. To establish the study program committee for the programme.
15. Laboratory equipment should be more used by teachers for applied research purposes.
16. Teachers could be encouraged to issue original teaching aids (textbooks, lecture conspectus, methodological guidelines, etc.).
17. Plates with the written names of laboratories should be placed at the entrance to the laboratories.

IV. SUMMARY

Study aims and learning outcomes are clearly defined. The interrelation between the study aims, learning outcomes and the study subjects providing these outcomes is reasoned. It is positive that the study programme aims is at the establishment and management of the own business in the area of electricity system maintenance. Appropriateness of learning outcomes and competences is confirmed by graduates and employers. Team of experts also found good coherence of the curriculum. Intellectual property are addressed in the subject “Law”. College administration takes care of the professional development of the teaching staff. Teachers' engagement in qualification-upgrade is persistent, notably in attending training courses, scientific conferences, internships, seminars. There is good consolidation of students, teachers and employers to promote the programme. Teachers have very good pedagogical and practical experience. They are highly professional in methodology of their subjects and efficiently employ various teaching methods and their combinations. The library is modern and well provided with new literature and subscribed databases. College has good relations with a number of regional enterprises and graduates have good job opportunities. Also, College offers individual study schedules; administration ensures an active academic support for new students with weak secondary school education background. Programme implementation is observed and discussed on regular basis, including good feedback from students. And finally, internal study quality assurance system as implemented in the College contributes considerably to the better management of the programme.

However, there is small number of students of the study programme. Team of experts found irregular (uneven year-to-year) admission of students. Majority of new students come with rather low entrance grade. General subjects as “Sociology”, “Social Psychology”, “Basics of Economics”, “Management” and “Law” are not related to electricity sector realities. All subject descriptions are missing references in English. Staff is missing local teachers with scientific degree. Teachers have insufficient Professional English and English communication skills and could not teach the incoming students under exchange programmes. The local teachers are weakly involved in the applied research activities. Also, students are not prepared to read technical literature in English. Library practically does not compile literature in English for the study programme. The programme entrants virtually do not include female students, partly to the fact that schoolgirls are not considered as a targeted candidate group. There is absence of a Study Programme Committee as a formal institutional unit for the programme in question.

V. GENERAL ASSESSMENT

The study programme *Electrical systems maintenance* (state code – 653H62001) at Žemaitija College is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

| No. | Evaluation Area | Evaluation Area in Points* |
|-----|---|----------------------------|
| 1. | Programme aims and learning outcomes | 3 |
| 2. | Curriculum design | 3 |
| 3. | Staff | 3 |
| 4. | Material resources | 3 |
| 5. | Study process and assessment (student admission, study process student support, achievement assessment) | 3 |
| 6. | Programme management (programme administration, internal quality assurance) | 3 |
| | Total: | 18 |

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

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

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

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

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<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Žemaitijos kolegijos studijų programa *Elektros įrenginių eksploatavimas* (valstybinis kodas – 653H62001) vertinama **teigiamai**.

| Eil. Nr. | Vertinimo sritis | Srities įvertinimas, balais* |
|----------|--|------------------------------|
| 1. | Programos tikslai ir numatomi studijų rezultatai | 3 |
| 2. | Programos sandara | 3 |
| 3. | Personalas | 3 |
| 4. | Materialieji ištekliai | 3 |
| 5. | Studijų eiga ir jos vertinimas | 3 |
| 6. | Programos vadyba | 3 |
| | Iš viso: | 18 |

* 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

Studijų tikslai ir rezultatai yra aiškiai apibrėžti. Ryšys tarp studijų tikslų, rezultatų ir tuos rezultatus užtikrinančių dalykų yra pagrįstas. Teigiamas bruožas yra tas, kad studijų programos tikslai yra ir nuosavo verslo steigimas elektros sistemų techninės priežiūros srityje bei vadovavimas jam. Absolventai ir darbdaviai tvirtina, kad studijų rezultatai ir įgyti įgūdžiai yra aktualūs. Ekspertų grupė taip pat pastebėjo, kad studijų turinys yra labai nuoseklus. Intelektinė nuosavybė aptariame dalyke „Teisė“. Kolegijos administracija rūpinasi profesiniu dėstytojų tobulinimu. Dėstytojų įsitraukimas į kvalifikacijos kėlimą yra nuolatinis: jie lanko mokymo kursus, mokslines konferencijas, laimi stipendijas, lanko seminarus. Studentai, dėstytojai ir

darbdaviai glaudžiai bendradarbiauja ir skatina šią programą. Dėstytojai turi labai geros pedagoginės ir praktinės patirties. Jie ypač profesionaliai rengia savo dalykų metodologiją ir efektyviai naudoja įvairius mokymo metodus bei jų derinius. Biblioteka – šiuolaikiška, joje gausu naujos literatūros ir prenumeruojamų duomenų bazių. Kolegija palaiko gerus ryšius su daugeliu regiono įmonių, tad absolventai turi geras darbo galimybes. Kolegija taip pat siūlo individualius studijų tvarkaraščius; naujiems studentams, kurių silpnas vidurinis išsilavinimas, administracija užtikrina aktyvią akademinę paramą. Programos įgyvendinimas nuolat stebimas ir aptariamas, iš studentų gaunamas teigiama grįžtamasis ryšys. Galiausiai, kolegijos vidinė studijų kokybės užtikrinimo sistema žymiai prisideda prie geresnės programos vadybos.

Vis dėlto studijų programoje mokosi per mažai studentų. Ekspertų grupė nustatė, kad studentai priimami nereguliariai, t. y. su įvairiomis pertraukomis. Daugelis naujų studentų turi mažą įstojimo balą. Bendrieji dalykai, tokie kaip „Sociologija“, „Socialinė psichologija“, „Ekonomikos pagrindai“, „Vadyba“ ir „Teisė“, nėra susiję su elektros srities realijomis. Visuose dalykų aprašuose trūksta šaltinių anglų kalba. Nėra vietinių dėstytojų su moksliniu laipsniu. Dėstytojų profesinės anglų kalbos mokėjimo ir bendravimo anglų kaba lygis yra nepakankamas, todėl jie negali dėstyti mainų programų studentams. Vietiniai dėstytojai menkai dalyvauja taikomųjų tyrimų veikloje. Be to, studentai nėra pasirengę skaityti techninę literatūrą anglų kaba. Bibliotekoje praktiškai nėra literatūros anglų kalba, skirtos studijų programai. Tarp į programą įstojusių studentų praktiškai nėra merginų, iš dalies dėl to, kad moksleivės beveik nelaikomos tiksline grupe. Nėra studijų programos komiteto kaip formalaus šios programos institucinio skyriaus.

III. REKOMENDACIJOS

1. Galėtų būti atskirti specializacijos – specifiniai tikslai ir studijų tikslai.
2. Ypač 14 studijų tikslas „*Suvokti intelektines vertybes – kūrybingumą, motyvaciją ir atsakomybę*“ yra menkai pagrįstas dalykų temomis, kuriomis užtikrinama, kad bus pasiektas šis tikslas (dalykai „Sociologija“ ir „Socialinė psichologija“).
3. Visu programos turiniu studentus reikėtų skatinti imtis taikomųjų tyrimų.
4. Šiek tiek reikėtų pataisyti kai kuriuos dalykų aprašus.
5. Bendrieji dalykai, tokie kaip „Sociologija“, „Socialinė psichologija“, „Ekonomikos pagrindai“, „Vadyba“ ir „Teisė“, galėtų būti labiau susiję su elektros sritimi.
6. Kolegijos administracija turėtų paskatinti dėstytojus labiau įsitraukti į taikomųjų tyrimų veiklą.
7. Kolegijos administracija turėtų paskatinti dėstytojus toliau tęsti studijas doktorantūroje.
8. Kolegijos administracija ir programos personalas turėtų pakviesti naujų užsienio dėstytojų.
9. Dėstytojai turėtų pagerinti anglų kalbos mokėjimo įgūdžius. Kolegijos administracija turėtų paskatinti juos lankyti anglų kalbos mokymo kursus.
10. Studentus reikėtų paskatinti ir motyvuoti skaityti profesinę literatūrą anglų kalba.

11. Energijos katedros personalas turėtų dėti daugiau pastangų siekdamas pritraukti vidurinių mokyklų moksleivius.
12. Reikėtų padidinti dėstytojų ir studentų mobilumą mainų programose.
13. Reikėtų atnaujinti kai kurių laboratorijų įrangą.
14. Reikia įsteigti studijų programos komitetą.
15. Dėstytojai turėtų dažniau naudoti laboratorijos įrangą taikomųjų tyrimų tikslais.
16. Dėstytojus reikėtų paskatinti rengti originalią metodinę medžiagą (vadovėlius, paskaitų konspektus, metodologines gaires ir kt.).
17. Prie laboratorijų įėjimo turėtų kabėti lentelės su jų pavadinimais.

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