



Final Study Programme Evaluation Railway Transportation Engineering (professional bachelor)

at

Vilniaus technologijų ir dizaino kolegija

Assessment report

4 May 2012

Assessment report of the professional bachelor study programme Railway Transportation Engineering. The final evaluation was carried out by evalag as part of the Updating the Engineering Field of Studies Group Electrical and Automation Engineering and Railway Transportation Engineering Study Programs and the Social Science Field Transportation Logistics Study Program project, code VP1-2.2-ŠMM-07-K-01-049.



Railway Transportation Engineering

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Vilniaus technologijų ir dizaino kolegija (VTDK) commissioned **evalag** with the final programme evaluation of the newly created professional bachelor study programme “Railway Transportation Engineering”. The programme evaluation was carried out by an international expert team that assessed the study programme according to the Lithuanian quality assurance standards and the European Standards and Guidelines for Quality Assurance in the European Higher Education Area with the objective of accrediting and registering the programme according to Lithuanian higher education law and awarding **evalag**’s international quality label for study programmes.

1. Vilniaus technologijų ir dizaino kolegija (VTDK)

VTDK is a public Lithuanian non-university higher education institution that offers college level study programmes which are directed towards a professional activity. The college in its present form was created by merging several colleges in Vilnius in the fields of engineering and design – this gives the college its distinct profile.

According to Lithuanian law, college level higher education institutions (kolegija) offer full-time and part-time professional bachelor degrees that allow graduates to pursue a professional career. Master degrees are not offered. Graduates who want to pursue a master degree at a Lithuanian university need to complete one and a half years of bridge courses to meet the admission requirements.

VTDK has about 4000 students and offers 22 professional bachelor programmes in the fields of engineering and design in the following four faculties:

- Civil Engineering Faculty
- Faculty of Design
- Petro Vileišio Faculty of Railway Transport
- Faculty of Technical Sciences

The college’s mission is to be a partner in the development of a sustainable society. On the basis of this mission the college has developed a strategic plan for its development and management. VTDK has recently been very active and successful in acquiring EU-funding. The college finished or still carries out a number of projects to renew its study programmes, to renovate its buildings, to update its equipment, to develop its staff, to collaborate with its European partner institutions and to develop its internal quality management.

The railway transportation engineering programme is offered by the Petro Vileišio Faculty of Railway Transport, which offers for its 1006 students five study programmes altogether:

- Rolling Stock Operation
- Railway Transportation Engineering
- Transportation Logistics
- Transport Information Systems
- Communication Links and Structures

Responding to the recent higher education reform in Lithuania and an employer’s survey carried out by the college, the faculty completely updated and restructured the three first-named study programmes in order to adjust the programme contents to the demands of the labour market and to broaden the competences of the graduates.

2. The Railway Transportation Engineering programme

The railway transportation engineering professional bachelor programme offers students a practice-oriented education which is closely targeted to the Lithuanian labour market, especially the Lithuanian railway company as the main employer in the sector. The students are educated in order to manage, operate and maintain railway signalling systems and infrastructure.

The college offers the programme as a three-year full-time programme and a four-year part-time programme.

The “railway transportation engineering” programme has been redesigned by combining the “railway automation systems” programme and the track “technical operation of railways” of the “railway operation” programme which have both been conducted since 2004. The programme is the only programme of its kind in Lithuania.

3. Accreditation process

The programme evaluation was carried out with a peer review on the basis of a self-evaluation report provided by the college, a site visit of an expert team, an assessment report by the expert team and the accreditation decision by **evalag**'s accreditation commission.

The final expert evaluation (the performance principles, steps, processes, and procedures of the evaluation) was conducted in accordance with the *Standards and Guidelines for Quality Assurance in the European Higher Education Area (2005)* and documents regulating the implementation and evaluation of study programmes in the Republic of Lithuania (*Study Program External Evaluation and Accreditation Procedures Description*, approved by the July 24, 2009, Order No. ISAK-1652 of the Minister of Education and Science of the Republic of Lithuania, and *Study Programs Intended-To-Be-Implemented Preparation Description and Their Compliance With Approved General And Specific Requirements For Study Programs Establishing Methodological Guidelines Approved by the Minister of Education and Science of the Republic of Lithuania*, approved by the March 3, 2010, Order No. 1-01-18 of the Director of the Centre for Quality Assessment in Higher Education (December 20, 2010, Order No. 1-01-163 revision), *Degree-awarding undergraduate and integrated study program general requirements*, approved by the April 9, 2010, Order No. V-501 of the Minister of Education of the Republic of Lithuania and Science, etc.).

The assessment of the programme consists of two parts which complement one another. On the one hand the programme was assessed to be registered according to Lithuanian law, which allows the programme to go into operation. For its registration the programme has to comply with the general requirements for study programmes as laid out in Order # V-501 and meet the assessment criteria for new study programmes as described in Order # 1-01-18. On the other hand the programme was assessed to receive **evalag**'s international label of study programmes. For this label **evalag** uses the European Standards and Guidelines for Quality Assurance in the European Higher Education Areas (part 1) and national criteria for programme assessment. In this case, in addition to the above mentioned orders, the criteria for existing programmes were used as described in Order # 1-01-162. The two sets of criteria are compatible insofar as the criteria for new study programmes are a subset of the criteria for existing programmes, taking into account that some information may not be available for newly created study programmes.

The college produced the self-evaluation report according to the Lithuanian guidelines for new study programmes (yet-to-be implemented programmes) as outlined in Order # 1-01-18 and submitted it to **evalag**. **evalag** formed an expert team consisting of four professorial experts and one student expert:

- Christopher Bohlens, Leuphana Universität Lüneburg
- Prof. Dr.-Ing. Liping Chen, Fachhochschule Kaiserslautern
- Prof. Dr. Harald Gleißner, Hochschule für Wirtschaft und Recht Berlin
- Prof. Dr.-Ing. Haldor Jochim, Fachhochschule Aachen
- Prof. Dr.-Ing. Frank Lademann, Technische Hochschule Mittelhessen

The site visit took place on 5 to 7 March 2012 at VTDK. During the site visit the expert team met with representatives of the programme, the college administration, students, teaching staff, graduates and employers and visited the laboratories and seminar rooms used by the programme.

The expert team produced an assessment report of the programme with an accreditation recommendation which was submitted to **evalag**'s accreditation commission that took the final accreditation decision in May 2012.

From **evalag**'s side, the accreditation was coordinated by Harald Scheuthle with assistance of Katja Götzen.

4. Programme assessment

4.1 Learning outcomes

Current situation

The self-evaluation report describes programme goals and learning outcomes of the railway transportation engineering programme and links it with the curriculum. The learning outcomes describe professional knowledge and competences as well as general/soft skills. The programme description describes the learning outcomes and contents of each module or subject and gives detailed information on the content and working methods of the courses.

The programme intends to educate "railway transportation engineers who can plan and organize activity while performing design and maintenance work on railway signalization equipment, visual and safety systems, communication systems, stations, and lines while organizing and controlling the technological process of shipment by railway transportation and can, based on their qualifications, independently make technical decisions and successfully work under competitive market conditions and improve in their professional activity" (self-evaluation report, p. 8).

The programme was updated in 2010 in a project funded by the European Commission. The programme was updated by broadening the competences of the graduates and by including new technologies and teaching and learning methods in the curriculum in order to increase the competitiveness of the graduates on the labour market. Therefore, the two preceding programmes were joined in the new curriculum.

In updating the programme, VTDK took into account two recent studies on the demand of specialists in the railway transportation sector. The studies suggested a need of specialists trained in modern railway infrastructure and control technologies as the

Lithuanian railway company is in the process of upgrading its traffic organisation and control infrastructure, especially in order to be able to integrate into the European transportation system. Additionally, in developing study programmes the college cooperates with employers formally (i.e. employer representatives are on the college's board) and informally through contacts between teachers and employers.

The main employer is the Lithuanian railway company which employs approximately 80% of the graduates. The remaining graduates work for other companies. As VTDK is the only college-level institution offering similar programmes in Lithuania it competes mainly with Vilnius Gediminas Technical University, which offers university-level study programmes in the railway and transportation field. Generally, though depending on the economic situation, the employability of the graduates is high. According to the faculty statistics, approximately 90% of the graduates of the faculty find a job in their professional field.

Assessment

According to the expert team, the learning outcomes describe the contents and the qualifications offered by the programme well. The learning outcomes clearly describe the professional orientation of the programme and meet the professional requirements of a graduate in railway operation. The learning outcomes on programme as well as on subject level are consistent with the college type studies and meet the required level of qualifications.

The name of the study programme "railway transportation engineering", however, does not completely fit the competence and knowledge expectations associated with an engineer. For an engineer you would expect broader competences in the field of designing and planning railway infrastructure. These competences, however, are not included in the curriculum of the study programme, and the graduates are not educated for design-oriented professions but rather for operating railway infrastructure.

The expert team realises the good employment opportunities of the graduates which are based on the practice-oriented education and the good cooperation of VTDK with employers in designing and developing the study programme. However, employment of the graduates is dependent on the Lithuanian railway company as the major employer. This situation links the success of the graduates in finding employment to the economic situation of a single company which makes the programme very dependent on this one company.

The expert team appreciates that the college offers a general studies part in its study programmes to develop general education, creative thinking and language skills. The team believes that some modules of the general studies part of the study programme could be even more useful if their contents were more specifically tailored to the needs of the future graduates and the fields of employment.

Recommendations

The expert team recommends reconsidering the name of the "railway transportation engineering" study programme. A name that fits the content and competence profile of the graduates more closely could be "railway transportation operation". As an alternative the expert team encourages the college to broaden the contents of the study programme in a future programme update in order to include more railway engineering competences. The experts see a good foundation in the current programme but miss especially subjects related to designing railway lines and railway track engineering. This could be easily achieved by the college by employing two to three new lecturers

who are able to cover these subjects. By broadening the programme the college would have the opportunity to provide practically educated specialists who are able to plan and maintain railway track infrastructure. Such specialists are – according to the information given by the college during the site visit – not educated in Lithuania at all and have to be brought in from abroad. Thus, a broadening and upgrading of the current study programme could close a gap on the Lithuanian labour market and support the country's position in establishing a transportation hub in the region.

The expert team encourages the college to closely monitor the economic situation in the Lithuanian railway sector in order to be able to react quickly in case of changes that may affect the employability of their graduates.

The expert team encourages the college to broaden the general studies concept by developing courses which offer key competences customised to the professional needs of an engineer and to emphasise creative thinking of the students. This could encompass methodological competences (e.g. professional writing and presenting as well as project management for engineers), soft skills/social skills (e.g. team-oriented communication, conflict management, leadership skills) and creativity (e.g. technical drawing with regard to finding several adequate technical options/solutions for day-to-day work). These courses could be offered as electives of the general studies part and, if necessary, adapted to all other study programmes of the college.

4.2 Curriculum design

Current situation

The curriculum is described in the self-evaluation report, the study plan and – more detailed regarding content and working methods – in the programme description. The curriculum is based on a total of 180 ECTS credits which is equivalent to 4800 working hours. 15 credits are devoted to general college study subjects, 135 credits are devoted to study field subjects and 30 credits to special study subjects among which nine credits are devoted to electives. The full-time programme covers six semesters with 30 credits each. The part-time programme lasts eight semesters with workloads of 21 to 24 credits.

The study field subjects include 36 credits of scientific basics for railway operation in the first two semesters and 12 credits of economics and law in the third to fifth semester. The curriculum covers altogether 30 credits of practices which are spread over the entire study period with 27 credits of different industry practices. 72 credits cover the core railway transportation subjects and modules including the electives. Three credits are covered by an applied research course and 12 credits are devoted to the graduation thesis.

The curriculum of the full-time programme has a high proportion of practice hours which reflects the practical and professional orientation of the study programme. Out of the 2422 contact hours, 825 hours are devoted to laboratory work and 1084 hours to lectures. The remaining hours are individual consultation hours and term papers. 2378 hours are devoted to individual work among which 310 hours are the main industrial placement. The part-time programme has the same distribution of credits with a higher proportion of independent work.

The curriculum covers the main subjects of the railway transportation engineering field and gives the graduates a solid foundation in the field. The general college study subjects are not subject related and cover humanities and social science subjects as well as language competences.

Assessment

The expert team regards the railway transportation engineering curriculum as well-structured and logical. The subjects and modules cover the relevant contents and competences to meet the programme objectives and prepare the graduates for their professional tasks. The contents of the curriculum also reflect new developments in technology.

The expert team commends the college for its strong education in basic sciences such as mathematics, chemistry etc., which are taught in the first semesters and lay the foundation for the understanding of programme-related contents. According to the experts, the college should ensure that the basics are related to the contents of the following modules.

According to the study programme the design of railway lines and railway track engineering are not part of the course. For example, the subject "Railway Stations and Junctions" is focussed on station management but does not entail the calculation of speeds and basics of track and points design. The auditors suggest offering those subjects as well in an effort to broaden the course, thus completing the graduates' spectrum of competences.

The experts appreciate the variety of learning methods used in the curriculum and the integration of a high proportion of laboratory work in the curriculum.

Most of the subject and module descriptions follow the guidelines in exemplarily good fashion and give students and teaching staff a comprehensive overview over content, learning outcomes, working methods, assessment and workload of the subjects or modules.

According to the expert team the curriculum meets the general requirements for study programmes as laid out in Order # V-501.

Recommendations

The expert team encourages the college to continue updating the curriculum of the programme regularly and adjusting it to the needs of the labour market. In further developing the study programme the experts especially encourage the college to proactively implement new technologies, fields and innovations in the curriculum instead of merely adjusting the programme according to employers' suggestions. The college should take the lead as a programme innovator in order to be ahead of changes in the railway and transportation sector, thus securing and improving the employability of its future graduates. In doing so, the college should build on the experience and ideas of its teaching staff.

While updating the programme the college should consider broadening the programme in order to include the full range of railway transportation engineering as outlined above.

4.3 Teaching staff

Current situation

VTDK has a teaching staff of 49 in the railway faculty. The majority of the teaching staff holds a Master degree or an equivalent. Six teaching staff members hold a Ph.D. title, four of them are associate professors of VTDK. 24 lecturers have practical experience

from a job at a company. According to the college, about 65% of the lecturers are employed full-time; the remaining 35% are part-time. 26 lecturers are involved in teaching the study field subjects for the railway transportation engineering programme.

The activities of staff members are chiefly confined to teaching. The workload of lecturers is 1548 annual hours, which approximates 18 teaching hours per week. The remaining time is used for consultation hours, preparation of teaching materials, staff development and scientific work. Fundamental scientific research, however, is not a primary task, as colleges in Lithuania are not supposed to engage in research activities. Nevertheless, the college encourages its staff to do applied research and supports projects proposed by staff members.

In general, professional development is the responsibility of each staff member, but the college also tries to support the professional development of its personnel. For this purpose, it attempts to acquire EU-funded projects in order to provide financial support for staff development. The funds acquired may for instance be used by lecturers for attending international or national conferences. Additionally, the college approves long-term internships by lecturers in companies and lecturer's efforts to acquire second master degrees in other fields. VTDK especially supports lecturers' ambitions to obtain Ph.D. degrees. The college is also engaged in Erasmus exchange programmes for teaching staff. Nevertheless, the lack of funding for staff development remains a general problem.

Teaching staff is evaluated by the college on a regular basis. The teachers write a yearly self-assessment report which is used for a gratification scheme. Every five years there is an assessment of each lecturer, which also takes into account the lecturers' efforts regarding their own staff development.

Assessment

The expert team considers the staff qualification adequate for offering a professional college-level study programme and for providing the students with a qualified learning experience. They appreciate the motivation of the teaching staff met during the site visit. The number of teaching staff appears to be sufficient for supporting the newly introduced consultation hours, too. The students confirm that the teaching staff is easily accessible for them.

The expert team supports the decision of the college directorate to support staff development and encourages the college to provide funding for it. The experts especially encourage the college to continue and strengthen its support for staff members who want to attain a Ph.D. degree.

Recommendations

The expert team encourages the college to further build on its highly motivated and qualified staff for the development of its study programmes. The staff should take the lead in introducing innovations to study programmes instead of chiefly following suggestions of employers.

4.4 Facilities and learning resources

Current status

The seminar rooms, computer rooms and laboratories for the railway transportation engineering study programme are listed in the self evaluation report and were visited by the expert team during the site visit. Altogether, the study programme uses a total of nine different seminar rooms and twelve laboratories for the different subject fields according to the self-evaluation report. The rooms and laboratories are shared with other study programmes. The computer rooms are equipped with the common software used in the field such as e.g. electronic interlocking simulation software. The laboratories are equipped with equipment which reflects the various generations of equipment currently used by the Lithuanian railway company. The relay interlocking and solid-state simulation, the up-to-date track measurement system and the driver's cab simulator are especially remarkable. The equipment and software were mostly financed by EU funding or donated by companies in the field. The library offers textbooks and learning resources for the students and gives access to professional journals. The literature is mostly in Lithuanian or Russian. Most textbooks or methodological publications are prepared by the lecturers and are available in sufficient numbers for the students in the library or online via Moodle.

Assessment

According to the expert team, the facilities for the study programme are adequate in size and quality to provide a high level learning experience. The team commends the college to its excellent and modern laboratories and up-to-date software equipment which provide very good conditions for the practical education of the students. The laboratories are especially well equipped for training the students in performing tasks related to the future employments, as the software and equipment used by the college is by and large the same as the infrastructure used by the Lithuanian railway company. The experts commend the college for its efforts to acquire funds for equipment and donated equipment from different sources to provide its students learning opportunities in well-equipped laboratories.

The textbooks or methodological publications provided by the lecturers are well-structured and provide students with good support in acquiring knowledge and competences in the respective subject matters. The experts commend the college to its widespread use of Moodle as a learning platform for their study programmes. Thanks to its library facilities the students have access to the basic publications necessary to complete their studies. As the large majority of the publications are in Lithuanian or Russian, the expert team misses a basic equipment of the current international professional literature in the English language.

Altogether the college is well equipped in terms of its facilities – especially regarding the laboratory equipment and the software – for offering the railway transportation engineering study programme.

Recommendations

The expert team recommends the college to acquire a basic stock of current international professional literature as a reference for its lecturers and students. This will support the college, its lecturers and students in keeping up with current topics and trends in the field of railway and transportation, thus enhancing the further development of the study programme. Furthermore, it should be studied, whether subscription(s) to rele-

vant databases may be useful to ensure the availability of the latest research topics for the programmes different subjects.

4.5 Study process and student's performance assessment

Current status

There are no specific admission requirements for the railway transportation engineering programme. For enrolment students need to have a high school diploma with two state exams. For an admission at universities three state exams are necessary. During the site visit the college informs the auditors that all applicants are accepted who meet the admission requirements. This is regarded as necessary because the college – as most other higher education institutions in Lithuania – suffers from a shortage of students due to an overall drop in the number of young people and high emigration. The study programme starts once a year in September.

The programme is offered in a full-time option and a part-time option. The part time option offers the same content but is spread over four instead of three years to allow students to work during their studies. The part-time programme offers the courses in three blocks at the beginning, in the middle and after the end of the regular semester, with a larger portion of independent work.

The study process is organised in groups of approximately 30 students. In the previous railway automation systems and the old railway operation programmes the college started in 2011/12 with one group of 22 respectively 25 students in the full-time programme one group of 25 respectively 44 students in the part-time programme.

The study process offers a variety of working methods such as lectures and seminars, laboratory work, independent home assignments, consultation hours and independent work. The teaching methods and its distribution are listed in detail in the programme description for each module / subject.

Each subject is concluded with a student assessment. The final subject assessment is composed of at least two different assessment forms and combined according to a predefined formula. This leads to a variety of different examination methods, e.g. written exams, tests, practical works, project reports and independent work, which assess different competences. The assessment methods and formulas used for creating the final marks are described in the programme description. The individual marks are assessed and processed by the lecturer of the subject and the final marks are then submitted to the faculty administration.

Drop-out rates are at about 12% per year (in the railway faculty as a whole). According to the faculty, the highest drop-out rate occurs in the first year. The faculty as well as the students see low motivation of student for the chosen subject, high requirements in basic science subjects, adaptation problems, difficulties to combine work and studies, financial problems and termination of studies to work abroad as main drop-out reasons. The renewed railway transportation engineering programme has now a larger proportion of individual consultation hours which may contribute to a reduction of drop-out rates.

The study programme includes – among other shorter internships or practical placements – an eight week internship (12 credits) in a company – mainly at the Lithuanian railway company. The students search their place independently but in case of need, the college provides support through their company contacts. Before the internship

starts, the student, the company and the responsible lecturer agree on the task that should be performed during the internship.

The bachelor thesis is mostly written at the college under the supervision of a lecturer; however, the final practice may be used to collect data in a company to prepare the thesis.

Students have the opportunity to participate in mobility programmes. The college takes actively part in the Erasmus programme and has several partner institutions in Europe. The most important exchange countries for the railway faculty are Slovenia and Poland. The number of incoming exchange or full students, however, is very low, as the college does not yet offer courses in English.

After finishing their studies the majority of the graduates seek a job in their profession, mostly successfully according to the information of the college. About 10% seek a Master degree. In order to meet the admission requirements for a Master programme at a Lithuanian university the graduates with a professional bachelor degree need to attend one and a half years of bridge courses.

Assessment

From the point of view of the expert team the study process of the railway transportation engineering programme seems to be well-organised and well-balanced. The organisation of the study process seems to be adequate to achieve the intended learning outcomes. This assessment is also confirmed during the site visit by the students, who were generally satisfied with their situation at the college and appreciate VTDK for its good reputation and good job opportunities. The students noted the easy and close contact with their lecturers. The assessment scheme is transparently described and uses multiple assessment methods to check different competences of the students. The study programme documents and programme description are available on the college's website. The expert team has not reviewed the examination regulations, because they were not available in English.

The college also offers its students opportunities for international mobility. The expert team encourages the college to strengthen these mobility programmes and to further motivate students to participate in student exchanges. For this purpose, the existing partnerships could be used. Furthermore, the experts emphasise the importance of English courses for local students. One necessary precondition to increase mobility is to provide favourable conditions for incoming mobility. Therefore, the experts see it as indispensable to offer courses in English in order to increase the attractiveness of the college for foreign exchange students.

The academic and social support of the students seems to be appropriate. The students report a clearly structured but also tight study process and are generally satisfied with their situation at the college. Lodging seems to be no problem, also due to the good supply of student housing by the college.

In order to reduce drop-out rates in the study programmes, the college introduced a larger number of individual consultation hours in the renewed study programme. These consultation hours may help address individual problems of the students and support them to progress in their studies if needed. The experts encourage the college to pursue this strategy and monitor its results.

Due to the close cooperation with employers in designing the study programmes and during the practical periods during the programme, the students are mostly able to find appropriate jobs in their profession. During the site visit the students as well as the graduates mentioned that finding a job is no big issue for them as they see themselves

largely well prepared. Due to the professional profile of the study programme the possibilities for continuing education are limited as bridge courses are necessary to start a master programme at a university.

Recommendations

In order to encourage and strengthen the international mobility of the students the experts recommend strengthening the English language education of the students and offering courses in English language in order to also attract foreign exchange students. Therefore, the English-language capacities of the teaching staff need to be strengthened. The experts suggest as a possibility to encourage lecturers to engage in staff exchange programmes. Another possibility would be to invite foreign guest lecturers who provide courses in English. This would also give students and staff the opportunity to get in touch with foreign approaches in the field and in foreign teaching and learning methods.

4.6 Programme management

Current status

Each study programme is run by a committee related to the faculty. The programme committee includes lecturers and students. It is responsible for the yearly improvement of the programme and coordinates the programme-related quality assurance activities. The college has a council with representatives from the social partners.

The college has a structured process to create and redesign study programmes that involves input from different stakeholder groups. First, the faculty decides whether they see the need for a new or redesigned study programme. Then, the college carries out research on labour market demand and the requested profile for the programme. For this purpose, an employer survey is used which is sent to individuals on different hierarchy levels of companies in the field for the designated programme. The survey asks questions about the knowledge and competences of graduates, language skills, basic study subjects and main study subjects. The faculty analyses the results of this survey which are then used by the programme committee to design the programme. In the next step, the programme committee defines the programme goals and learning outcomes and designs the subjects to achieve the desired learning outcomes. In this process, the relevant ministerial regulations (general and specific requirements, etc.) are taken into account. Ultimately, the committee designs a curriculum and assigns credits to the subjects. In the next step, the lecturers develop the contents of their subjects according to the specifications of the curriculum. Once finished, the programme committee discusses the curriculum and the individual subjects with the lecturers. The finalised programme is then discussed by the faculty board, and after it has been adopted it will be voted on by the academic board of the college before finally the programme can be presented for accreditation and offered to students.

The programme committee meets regularly and reviews the programme on a yearly basis. For programme improvement the college builds on initiatives of its lecturers, results of the quality assurance instruments and its close contact with its social partners. The recent programme renewal was carried out in close cooperation with employers in order to customise the programme content to the needs of the labour market.

On the administrative side, the head of department is in charge of the programmes offered by the department. The railway faculty has two departments which coordinate the five programmes of the faculty:

- Railway Information Systems and Infrastructure Department
 - o Railway transportation engineering
 - o Transport information systems
- Railway Operation Department
 - o Rolling stock operation
 - o Transportation logistics
 - o Communication links and systems

Due to the update and introduction of new programmes the railway faculty is currently in the process of changing its structure.

On programme level the department carries out student evaluations of individual courses and subjects. The results of the evaluations are analysed and discussed in the department or, if needed, between lecturer and dean.

On college level a quality assurance office supports the faculties and study programmes in their quality assurance efforts. The college also provides a quality handbook that describes the most relevant processes. Currently the college is carrying out an EU-funded project aimed at redesigning its internal quality assurance system and at developing a quality management system based on a combination of EFQM and ISO. In this project, the college will also define strategic performance indicators for its faculties.

Assessment

The expert team regards the programme management as clearly structured and efficient. The experts appreciate the clear process of designing new study programmes and the strong involvement of external stakeholders in the improvement of the study programmes. However, the experts still see the need of a clearly designated programme manager for each study programme who can serve as a contact person for students and lecturers.

As to the student course/subject evaluation the expert team could not confirm the existence of a clearly defined process. During the site visit it did not become clear whether the course/subject evaluations were carried out, analysed and followed-up in a standardised process.

The experts commend the college on its efforts to improve its internal quality management system in an EU-funded project and support the college in fully implementing the results of this project. As the project is not yet implemented the quality management system cannot be fully assessed at this stage.

Recommendations

The expert team recommends assigning a programme manager to each study programme in order to assure coordination among and between lecturers and students and a smooth operation of each study programme.

The expert team also recommends a standardised process for the student course evaluations. The process should assure a clear and transparent feedback of the results to lecturers and students. The evaluation should be organised and carried out by an independent body or person in charge. The dean should only be involved to mediate and coordinate the follow-up of the evaluations.

The expert team recommends the college using the opportunity of the EU-funded quality assurance project to design and implement an integrated strategic quality management system that builds on the strategic objectives of the college and the study programmes, uses diverse sources of information to analyse the quality and derives and implements measures for improvement. The college needs to assure that the quality management system supports the lecturers in providing a good learning experience and reduces bureaucracy.

The experts invite the college to use statistics more systematically in its internal quality assurance processes, so that the capacities of the already build up quality management system can be fully used.

5. Overall assessment

In general the expert team assesses the professional bachelor study programme “Railway Transportation Engineering” positively. The college provides a solid education and prepares the students well for their future profession. The professional character of the programme is clearly described in the learning outcomes. Curriculum and study process are clearly structured and appropriate to achieve these learning outcomes. The programme management and the quality assurance seem to be appropriate to manage and improve the programme. The expert team values the close cooperation of the college with employers – mainly the Lithuanian railway company – in order to support the study process and to constantly develop the study programme and focus the competences of the graduates to the needs of the labour market. A great asset of the college is its motivated teaching staff and its excellent laboratory equipment. The efforts of the college in providing good learning opportunities are also valued by the students.

The expert team sees the main area for development in using the college’s potential for innovation in order to proactively develop the study programme in the future. The experts see a potential to broaden the competences of the programme by including line design and track planning competences in order to fulfil the own ambition to provide a comprehensive railway transportation “engineering” programme for which the experts see the potential on the Lithuanian labour market.

In further developing the programme the college should assume the role of the leader and innovator and propose programme innovations that meet the future needs of the labour market. Therefore, the college staff needs to keep up with current trends in the academic as well as professional field for being able to react appropriately and prepare graduates ahead of time for changes in the professional and economic environment. The experts see further internationalisation of the programme by strengthening English language skills, increasing students and staff exchange in both directions and inviting foreign guest lecturers as one important element to induce innovation.

According to the expert team the renewed railway transportation engineering programme meets the Lithuanian requirements for programme accreditation. Therefore, the team recommends the programme for accreditation.

The expert team also recommends awarding the **evalag** label for programme accreditation as the programme meets the Lithuanian evaluation criteria for study programmes on which the label is based. The team recommends the college to consider and implement the recommendations in this report to further improve the programme.

6. Decision of the Accreditation Commission

The accreditation commission of **evalag** accredited the professional bachelor programme “Railway Transportation Engineering” of the Vilniaus technologijų ir dizaino kolegija (VDTK) and awarded the **evalag** label for programme accreditation. The accreditation is valid **from May 2012 until August 2015**.

To further improve the study programme the accreditation commission affirms the recommendations given by the expert group.

Evaluation Scores

No	Evaluation Area	Evaluation of the area, points
1	Programme aims and learning outcomes	3
2	Curriculum design	3
3	Teaching staff	3
4	Facilities and learning resources (facilities, equipment, learning materials)	3
5	Study process and students' performance assessment (student selection, performance assessment, support)	3
6	Programme management (administration of the programme, internal quality assurance)	3
	Total	18
		Maximum score: 24

Evaluation scale

Level/Score	Evaluation	Description
1	Unsatisfactory	There are essential irregularities to be eliminate
2	Satisfactory	Meets the minimum requirements, requires improvement
3	Good	The area is systemically developed and possesses original features
4	Very good	The area is exceptionally good