



STUDIŲ KOKYBĖS VERTINIMO CENTRAS

**KAUNO TECHNOLOGIJOS UNIVERSITETO
PANEVĖZIO INSTITUTO**

TRANSPORTO PRIEMONIŲ INŽINERIJOS

STUDIŲ PROGRAMOS

(61203T112, 612E20001)

VERTINIMO IŠVADOS

**EVALUATION REPORT
OF *VEHICLE ENGINEERING* (61203T112, 612E20001)**

STUDY PROGRAMME

at KAUNAS UNIVERSITY OF TECHNOLOGY

PANEVĖZYS INSTITUTE

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DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Transporto priemonių inžinerija</i>
Valstybiniai kodai	61203T112, 612E20001
Studijų sritis	Technologijos mokslai
Studijų kryptis	Transporto inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	pirmoji
Studijų forma (trukmė metais)	nuolatinė (4), iššęstinė (6)
Studijų programos apimtis kreditais ¹	160
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Transporto inžinerijos bakalauras
Studijų programos įregistravimo data	1997-05-19

¹ – vienas kreditas laikomas lygiu 40 studento darbo valandų

INFORMATION ON EVALUATED STUDY PROGRAMME

Name of the study programme	<i>Vehicle engineering</i>
State code	61203T112, 612E20001
Study area	Technological sciences
Study field	Transport engineering
Kind of the study programme	University studies
Level of studies	first
Study mode (length in years)	Full-time (4), part-time (6)
Scope of the study programme in national credits ¹	160
Degree and (or) professional qualifications awarded	Bachelor of Transport Engineering
Date of registration of the study programme	19-05-1997

¹ – one credit is equal to 40 hours of student work

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I. INTRODUCTION

The Panevėžys Institute (PI) was founded in 1961 as the Panevėžys part-time Department of KTU, and in 1965 it was re-organised into the part-time Faculty of KTU. In 1998 it was re-organised into the Panevėžys Branch of KTU, and in 2001 the Branch was renamed the Panevėžys Institute. It operates as a Faculty of Kaunas University of Technology (KTU) and the Director of the Institute reports to the Rector of KTU, but it is independent. The Institute has 2 Faculties; Technologies and Management & Administration. Within the Faculty of Technologies there are 4 Departments: Civil Engineering, Electrical Engineering Mechanical Technology and Physical Sciences. The Vehicle Engineering programme (called “Transport Means Engineering” in the Self-evaluation report, possibly the result of the translation from Lithuanian name: Transporto Premonių Inžinierija) was introduced in 1999, and runs both full-time (duration 4 years) and part-time (duration 5 years, 6 years from 2009).

The Panevėžys Institute (KTU-PI) BSc Vehicle Engineering programme is focused on “automotive repair and maintenance” which distinguishes it from the BSc Vehicle Engineering programme (with the same registration number 61203T112) which runs in the Faculty of Mechanical Engineering and Mechatronics (Department of Transport Engineering) in KTU at Kaunas. The two programmes have the same basic structure and core modules (module descriptors are identical) and there are differences between the two programmes only in specialised subjects for which 15 credits are allocated. Thanks to a good correlation of the programme with the programme at KTU graduates can progress directly to the MSc Vehicle Engineering programme at KTU.

Consistency of standards between the KTU-PI and the KTU programmes are ensured by the KTU Study Programmes Committee which also approves staff resources and facilities. There are no shared assessments between the 2 programmes, Academic consistency is maintained by final project assessment board representation from KTU, social partners, and KTU-PI.

The programme corresponds well with regional needs. Most students come from the Aukštaitija region and 90% of graduates stay in the region. The full-time academic and research staff of 50 includes 5 professors and 11 associate professors. 570 students (including 302 full-time and 268 evening studies students) are enrolled in the Faculty. Also there are 31 Masters students. The number of students admitted to the BSc Vehicle Engineering programme seems to be around 25 students each year (full-time) and 20 students part-time (Self-evaluation report Tables 7 and 9).

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

1.1. Programme demand, purpose and aims

The transport sector is one of the most productive and rapidly developing sectors of Lithuanian economy. Therefore employers need specialists who have knowledge in global market conditions with high qualifications in this field. According to this the program aims were defined as follows:

- Knowledge in elements of transport means,
- Understanding of principles of system designing,
- Knowledge of processes of transport means producing,
- Knowledge of principles of transport means diagnosis,

- Capability to apply knowledge in solving the transport engineering tasks,
- Knowledge of economics and management,
- Knowledge of foreign languages.

The specific knowledge and understanding acquired in First Cycle Transport Engineering / Vehicle Engineering studies should include the following:

- Knowledge and understanding of transportation system structure, elements, and interrelations of elements, as well as knowledge and understanding of logistics;
- Knowledge and understanding of the construction and the functional principles of vehicles (transport means);
- Knowledge and understanding about the systems of the transportation system being studied, as well as knowledge and understanding about the trends of development of such systems, and peculiarities of use of means of transportation;
- Knowledge and understanding of transportation technologies and circumstances for optimum use of means of transportation;
- Knowledge and understanding of specific environmental and traffic safety problems.
- The specific practical abilities acquired in the course of transportation engineering studies include the ability to establish and analyse the characteristics of maintenance/use of means of transportation taking into account the traffic, road, and environmental conditions.
- Transportation systems, means of transportation, technologies of production and repair of means of transportation, engines, hydraulic, pneumatic, and electronic systems, and transportation organisation and technologies.

The BSc programme as presented conforms to these statements.

Vehicle Engineering BSc programmes are offered at several universities in Lithuania. The specialisation of the KTU-PI programme is “automobile exploitation and management”. The fact that about 60% of graduates from the Vehicle Engineering programme work in jobs directly related to this speciality proves the need for the programme (according to interview results quoted in the Self-evaluation report). This was also confirmed by the Reviewers who met with representatives of employers during the review visit.

Generally both graduates and employers are satisfied with the knowledge and skills gained during the programme, and this confirms that the program aims are well realised. However the employers observed that they see a need to strengthen the design and construction engineering content, to strengthen creativeness and improve knowledge of foreign languages. Furthermore the Reviewers were not convinced that the ‘maintenance and repair’ focus of the programme is truly representative of the programme and its strengths.

1.2. Learning outcomes of the programme

The (Programme) Key learning outcomes are closely similar to those of the KTU BSc programme. These were updated in 2005, and are clearly presented in Table 2 of the Self-evaluation report. They are categorised under 4 areas:

- Knowledge and understanding (A);
- Intellectual abilities (B);
- Practical abilities and skills (C);
- General transferable abilities and skills (D).

In each module descriptor (Study Module Programme see Appendix 3-1 of the Self-evaluation report) the learning outcomes which are addressed by the module are identified. From this the contribution made by each study module to the Programme level learning outcomes is defined on Table 3 of the Self-evaluation report. This clearly indicates a coherency between the Programme learning outcomes and the Module learning outcomes which is extremely good practice.

The learning outcomes in Table 2 of the Self-evaluation report are carefully and clearly worded and they are well connected with the aims of teaching at the BSc level. However the learning outcomes do not include sufficient evidence of three elements which the Reviewers considered to be important in a BSc (Cycle 1 programme). These are:

- (i) Communications skills;
- (ii) Critical review and evaluation;
- (iii) Project planning and management.

The Reviewers believe that communication, in written and verbal form, should be specifically included in 'General transferable abilities and skills' (D). This learning outcome would, for example, be addressed by a language module, an ICT module, or by a module which involves teamwork (specified under C6 and D7).

The Reviewers would expect to see in Cycle 1 graduates an ability to critically review not only their own work, but that of others as well. This is mentioned in B1 and D2, but the Reviewers believe that the principles of critical review should be developed in all categories of learning outcomes (A) – (D). For example, learning outcome A7 might state “knowledge of transportation technologies, optimal circumstances for transport means usage...” which could be amended to read: “to be able to critically review them in order to select the optimal circumstances”. The Reviewers noted that this aspect was generally under-represented in the Final Project reports of the final projects (see Section 5.4 later in this report).

Similarly, knowledge and understanding of project planning and management are not included in the learning outcomes.

The list of learning outcomes presented in the Self-evaluation Report is very extensive. The learning outcomes are worded very accurately, sometime even in too much detail. It seems also that some outcomes are little too optimistic in relation to possibilities offered by the 4-years BSc programme e.g. design skills (C7, C10) which have only little support in taught subjects and practically can be developed only in the frame of a Final Project.

The learning outcomes are reasonably well distributed among the study modules (Table 3 of the Self- evaluation report). The Final Degree Project module (T000B128) addresses most learning outcomes in one module, which is why this is such an important module, but it does not address project planning and management.

For these reasons the Reviewers have noted that the area of learning outcomes has been developed systematically and has distinctive features, but requires further refinement so that it becomes exceptionally good. The relationship between the BSc Vehicle Engineering programme at KTU-PI and the BSc Vehicle Engineering programme at KTU, both of which have the same Registration number, should be clarified and clearly specified. Whilst the two programmes have a common core and operating framework within KTU, it is not clear if the same Registration number is appropriate because they have different specialities, aims and objectives.

According to the Self-evaluation report the procedure approved at KTU for the system of assessment of the study programmes at the Faculty of Mechanical Engineering and Mechatronics is applied at KTU-PI. Within this procedure learning outcomes are discussed and improved. The lecturers, students and social partners participate in the procedure;

particularly the participation of employers is of great advantage, as they can transfer feedback information about real industry demands for specific knowledge and skills of graduates. The Reviewers recommend better use of this information in improvement of the programme.

Comments:

The area of learning outcomes has been developed systematically and has distinctive features, but requires further refinement so that it becomes exceptionally good.

Recommendations:

The relationship between the BSc Vehicle Engineering programme at KTU-PI and the BSc Vehicle Engineering programme at KTU, both of which have the same Registration number, should be clarified and clearly specified.

The area of learning outcomes requires further refinement. Communication, in written and verbal form, should be specifically included in the Programme and Module Learning Outcomes e.g. under 'General transferable abilities and skills' (D). Languages, especially Russian, are strongly encouraged by social partners. Generally the teaching of communications skills should be enhanced, e.g. by teaching in foreign languages, and students should continue to be encouraged to participate in international exchange (Erasmus).

More use is encouraged of information from staff, students and especially social partners who participate in the assessment procedure for the study programmes, concerning learning outcomes especially relating to the real industry demands for specific knowledge and skills of graduates. An example would be the provision of a 'stage' evaluation by the students of the whole year (or the whole semester).

2. Curriculum design

2.1. Programme structure

The study volume in hours and credits is adequate for Cycle 1 (BSc) degree study. The BSc programme structure indicates clearly that the programme objectives are very well defined: to provide knowledge in physics, mathematics, mechanics, engineering design, physical and technological sciences, knowledge in special subjects of the study field, to develop abilities to design, modernize, adopt and maintain up-to-date equipment, to apply the acquired skills in designing, systems and solving engineering type problems. The Reviewers agreed that the programme is well structured and the range and selection of subjects (modules) are suitable to meet the objectives and comply with the legal requirements. The programme prepares graduates well for jobs, careers, and academic progression to 2nd cycle studies e.g. MSc, in KTU or any other university.

The curriculum includes 10 credits of Social Science (Economics, Management, and Law), 30 credits of special subjects (although there is no choice in these), and 10 credits of professional practice. There are 8 credits of elective (free choice) subjects. The scheme of module consistency, interrelations, sequences and priorities is presented clearly on Fig. 1 of the Self-evaluation report. It is evident from the scheme that the programme is very well constructed.

2.2. Programme content

The programme content appears to comply with the formal requirements and represents a good 1st cycle education which can then be followed up with an MSc. The programme gives a very good theoretical background with a large number of theoretical and general engineering subjects in the "Section of study field basics". It seems however that these subjects are over-represented in the programme, and the consequence of this is a limited

number of hours for special and practical subjects. In comparison with the KTU Vehicle Engineering programme the KTU-PI programme offers a thorough Cycle 1 curriculum with depth; it offers only one specialization; automobile exploitation and management.

In the programme there are a small number of hours for foreign languages, but only in one semester which is fairly late on (semester 5 for full-time, 8 for part-time). Foreign language teaching could usefully be emphasized and extended, especially Russian and English. A direct quote from the employers was “Russian is a real problem for the last 2 years”.

There is no defined project work except for the final degree project; project work is usually where the development of project planning and management skills and knowledge is effectively based, and it (project planning and management) is not mentioned in the module descriptor.

It is not clear how much Teamwork practice is covered; learning outcome D7 (relating to teamwork and professional ability improvement) is not mentioned in Table 3, and it is not clear from the module descriptors how this important topic is developed through the semesters of the programme, and to what extent.

Nearly all modules specify a significant number of hours each week for practical lectures and laboratory work. The students indicated how much they valued the practical connection between theoretical knowledge and practice. The role of the social partners in providing practical placements is excellent, and is clear strong evidence of a healthy working partnership between Industry and the University at cycle 1 level.

The inclusion of Social Science subjects in the curriculum is commended as these 3 modules are very useful in a career in Transport Engineering. There is no choice in the specialist subjects available to students. Although maintenance and repair is covered from a technology basis, maintenance theory is important in all branches of Vehicle Engineering, and it is slightly surprising that no module in this topic is offered. There is no mention of commercial vehicles, and the Reviewers’ observation was that the programme was focussed on cars (automobiles). Consideration should be given to including the theory and practice of commercial vehicles (trucks and buses) in the curriculum.

Comments:

The programme is well structured and the curriculum is suitable to meet the objectives and comply with the legal requirements. The programme prepares graduates well for jobs, careers, and will enable student academic progression to 2nd cycle studies e.g. MSc.

Overall the Reviewers considered that the area of curriculum design the area develops systematically and has distinctive features. It presents a thorough Cycle 1 curriculum with depth but only offers one specialization. Engagement of students in theoretical and practical work, and the way these are combined is very good.

Recommendations:

More project work other than the final project together with the important topic of teamwork practice should be included in the curriculum, and knowledge and understanding of project planning and management should be included in the learning outcomes.

The design and construction engineering content of the programme should be strengthened.

The Department should review the large number of theoretical and general engineering subjects in the programme with a view to reducing these subjects and increasing the opportunity for special and practical subjects.

3. Staff

3.1. Staff composition and turnover

The Self-evaluation report Paragraph 39 mentions “35 teachers engaged in the transport engineering programme”, a good number to cover the subjects in the curriculum. Additionally in the programme there are some part time teachers engaged, who appear to be young professionals keeping their main full-time positions in other institutions and industry. Teachers are also invited from other institutions. This is good because they can transmit their practical knowledge and experience to the students and the Departmental staff.

Turnover of permanent academic staff participating in the BSc programme is “minimal” however there is one visiting professor engaged in the programme and the engagement of professionals from outside KTU-PI in order to teach specialist subjects is very good.

The Reviewers noted that the representation of female academic staff in the Department was satisfactory, although this should be kept under strategic review.

3.2. Staff competence

Although most lecturers have high academic qualification and considerable academic achievements in form of scientific articles and books, the alignment of their academic background (subjects) and professional development experience with the topics of the study programme is in some cases not very close. Among the lecturers engaged in the programme only 3 of them declared Transport Engineering as the main field of their scientific activity. Among the rest the majority are active in Mechanical Engineering, and the Coordinator of the programme is not a transport specialist. Only a small number of lecturers have practical experience in the field they teach. Some lecturers who lecture outside Lithuania and lecturers who are working towards their Doctorates are good evidence of staff development.

Comments:

The Department’s staff meet the established minimum requirements, but their practical experience needs to be increased and their scientific background should be better aligned with the programme topics. The Reviewers were impressed with the enthusiasm of the staff and the obvious progress that they have made in the development of these aspects of their profiles, and encourage them strongly to continue.

Recommendations:

The Department’s staff should continue to increase their practical experience and align their scientific background better with the programme topics.

Continuing staff development in the areas of practical experience, international mobility, and English language capability is encouraged.

4. Facilities and learning resources

4.1. Facilities

Facilities are good or very good and many of them freshly renovated. The only adverse comment is that the facilities are located in 2 premises situated in different parts of the town so the students have to travel between them. However, the students and staff explained that the teaching schedule takes account of this effectively.

Equipment and resources are very good and very well presented, although limited in some areas (e.g. Mechanical testing – properties of materials). There are also well equipped computer laboratories with up-to-date engineering software. Taking into consideration the relatively small numbers of students in the programme, it can be stated that the facilities and

learning resources for the study programme are very good. Students have at their disposal many laboratories which are used for practical training. There is also a transport engineering laboratory which is essential for the Vehicle Engineering programme. The laboratory is well equipped and can be used to conduct practical training at the BSc level. Furthermore KTU-PI has valuable and creditable agreements with over a dozen companies to carry out professional practice placements.

The Panevezys Institute library has a large number of books and professional journals related to the programme study subjects, which are available to all students. The students can use the central reading room in the Institute library or the reading room of the Faculty of Technology, where mostly technical and natural science literature is stored. Books can be borrowed by the students and they can also use subscribed electronic technical databases. The library is only open until 6 p.m. on weekdays, but the students were satisfied with this, they stated “we plan our time and when we need to borrow books”.

Besides the text books, some of which are prepared by the lecturers, in the laboratories of the programme methodological editions are available. According to information in the Self-evaluation report, learning materials are available in quantity adequate to the number of students. This was confirmed by the students.

Comments:

The facilities and resources at KTU-PI are exceptionally good and provide an excellent learning environment. Continuing development of facilities and continuing investment in equipment should continue to ensure these excellent learning resources stay up-to-date.

5. Study process and student assessment

5.1. Student admission

The number of students admitted to the programme in the last 5 years is relatively stable between 20 and 27 in the case of full-time study and has increased over 5 years (2004 – 2009) from 13 to 21 in the case of part-time study. The number of admitted students could be recognised as small in relation to the staff number and quality of facilities.

Annual student ‘drop-out’ seems to be high: it is over 50% from year 1, for part-time and full-time students. This is ascribed to students not having the “proper knowledge in mathematics, physics and chemistry”, and also financial problems. After year 1 the number of dropouts is much less. Action has been taken by the Department to reduce the dropout rates, including the provision of extra lectures in mathematics and foreign languages, also the lecturers set more time aside to help the students. The students with whom the Reviewers met confirmed this.

In the Self-evaluation report there is information about a good range of actions taken in order to encourage students to enter the Vehicle Engineering programme. It is difficult to assess how effective these actions are but the Department is encouraged to continue the good work. It appeared to the Reviewers that the Institute was very important to the local community and local economy because of the education it provides, and the local community is very supportive of the Institute.

5.2. Study process

Students did not indicate any problems with the programme schedule. They said only that the workload is so high that is practically impossible to combine study with working and only summer jobs are possible. A small number of students, especially in the fourth year (about 15) commented on the limited alternative and free choice lectures available.

Mobility of lecturers and students is relatively low, but not bad for the number of students and staff. In the period under assessment 2 lecturers participated in scientific conferences abroad and 8 students went abroad to study. Students did not seem to be very interested in studying abroad, finding study at KTU PI “good enough”. The reason for reluctance to go abroad could be also limited knowledge of foreign languages, especially problems with every day speaking were mentioned by the students. However students, graduates, and employers all agreed that experience outside Lithuania and good ability with foreign languages (including Russian) should be encouraged.

5.3. Student support

Students were very appreciative of the support they get from the staff. There is a system of scholarships which are paid according to the students’ performance each semester; the Rector has the final decision on these awards.

Many of the students interviewed were from Panevezys but those coming from further away can get a room in a KTU-PI hostel at a relatively low rent.

5.4. Student achievement assessment

Assessment criteria were considered appropriate and relevant. There was no clear indication of the mark given for the coursework on display.

There is a system which ensures the evaluation of the lecturers in delivering the study modules and thereby assessing the teaching quality. This involves the Students’ Union.

Final project reports are assessed by the commissions which includes lecturers from the Transport Engineering department and from other departments, staff from other universities (KTU) and representatives from social partners. The chairman is always from industry. Such composition of the commission guarantees appropriate evaluation of the work and its relation to the industrial practice. However, having examined a number of final project reports, the Reviewers wish to encourage more discussion and reflection in the BSc final project reports.

The Reviewers were unable to comment on any system for assessment and recognition of achievements acquired in non-formal and self-education because there was no evidence of this either in the self-evaluation report or from the meetings undertaken. It would appear that this is a topic which would benefit from direction at a national level; it has become important in many other European countries over the last 10 years.

5.5. Graduates placement

According to the Self-evaluation report, 60% of the graduates from the Vehicle Engineering programme were employed according to their speciality, and 40% continue study at MSc level. This was confirmed during the Reviewers’ meeting with the graduates; only one person did not work in transport. Students did express some concerns about finding a job in the region; they were worried there were “not a lot of jobs”. They said that maintenance and repair was “big business around Panevezys.

Comments:

The study process and student assessment of the BSc Programme in Vehicle Engineering at KTU-PI has developed systematically. The reviewers would like to see increased international support (Erasmus, languages – including Russian) for the students, and more formalised interactions between the Employers and the Department to ensure that needs are understood and addressed.

Recommendations:

The Department should continue to develop and promote its range of actions to encourage students to enter the Vehicle Engineering programme.

Effort to reduce student dropout rates should continue.

More discussion and reflection in final project dissertations should be encouraged, and learning outcomes should be reviewed to support and encourage this.

6. Programme management

6.1. Programme administration

The programme management appeared to be thorough and effective. Students and graduates were very complimentary about the support they received from the academic staff.

6.2. Internal quality assurance

The Self-assessment report for the BSc programme at KTU-PI was generally well-written and presented. Quality improvement is managed through feedback from student evaluation of each module. It was not clear whether there was a 'stage' evaluation, i.e. an evaluation by the students of the whole year (or the whole semester). A 'stage' review can provide a useful overview of the way the programme integrates the modules and their learning outcomes.

Employers are very supportive, and are engaged e.g. commissions to evaluate final projects, programme committees, and organising internships for students in their companies. Graduates were very enthusiastic. Both groups of stakeholders indicated that they had quite a lot of informal contact with members of the Department, and would welcome more formal contact e.g. to discuss the curriculum at a strategic level, to match programme content with business needs.

Employers value the good preparation of graduates for work in the transportation sector and declared their willingness and enthusiasm to organise internships for students in their companies. The employers interviewed were extremely enthusiastic and supportive. They noted that graduates were knowledgeable in theory and practice, and were able to pass on knowledge to others. They had "never been disappointed"! Several employers mentioned that they needed graduates with more skills and knowledge of vehicle component design and construction. Although this might be too specialist for a BSc programme, the Reviewers recommend that the Department talk to employers about such needs in a formal way and consider how the curriculum might be extended to provide better cover of design and construction as the Reviewers had similar views about the programme content in this matter.

Comments:

The programme management has developed systematically and the reviewers would like to see more student feedback relating to each 'stage' of the programme, also more formal engagement with stakeholders. Strong support from industrial / social partners is evident and this support could be harnessed more beneficially for staff and students. The participation of employers is of great advantage as they can transfer feedback information about real industry demands for specific knowledge and skills of graduates.

Recommendations:

The Department should make better use of information from industrial and social partners in improvement of the programme. Procedures should be set up by which employers are formally encouraged to discuss their needs and new directions with Departmental staff.

The Department is encouraged to meet more formally and regularly with its (very supportive) stakeholders (viz. Graduates and social partners).

II. RECOMMENDATIONS

Programme aims and learning outcomes

1. The relationship between the BSc Vehicle Engineering programme at KTU-PI and the BSc Vehicle Engineering programme at KTU, both of which have the same Registration number, should be clarified and clearly specified.
2. The area of learning outcomes requires further refinement. Communication, in written and verbal form, should be specifically included in the Programme and Module Learning Outcomes e.g. under 'General transferable abilities and skills' (D). Languages, especially Russian, are strongly encouraged by social partners. Generally the teaching of communications skills should be enhanced, e.g. by teaching in foreign languages, and students should continue to be encouraged to participate in international exchange (Erasmus).
3. More use is encouraged of information from staff, students and especially social partners who participate in the assessment procedure for the study programmes concerning learning outcomes especially relating to the real industry demands for specific knowledge and skills of graduates. An example would be the provision of a 'stage' evaluation by the students of the whole year (or the whole semester).

Curriculum design

4. More project work other than the final project together with the important topic of teamwork practice should be included in the curriculum, and knowledge and understanding of project planning and management should be included in the learning outcomes.
5. The design and construction engineering content of the programme should be strengthened.
6. The Department should review the large number of theoretical and general engineering subjects in the programme with a view to reducing these subjects and increasing the opportunity for special and practical subjects.

Staff

7. The Department's staff should continue to increase their practical experience and align their scientific background better with the programme topics.
8. Continuing staff development in the areas of practical experience, international mobility, and English language capability is encouraged.

Study process and student assessment

9. The Department should continue to develop and promote its range of actions to encourage students to enter the Vehicle Engineering programme.
10. Effort to reduce student dropout rates should continue.
11. More discussion and reflection in final project dissertations should be encouraged, and learning outcomes should be reviewed to support and encourage this.

Programme management

12. The Department should make better use of information from industrial and social partners in improvement of the programme. Procedures should be set up by which employers are formally encouraged to discuss their needs and new directions with Departmental staff.
13. The Department is encouraged to meet more formally and regularly with its (very supportive) stakeholders (viz. Graduates and social partners).

IV. GENERAL ASSESSMENT

The study programme *Vehicle engineering* (state code – 61203T112) at Panevezys Institute of Kaunas University of Technology is given positive evaluation.

Table. *Study programme assessment in points by evaluation areas.*

No.	Evaluation area	Final
1	Programme aims and learning outcomes	3
2	Curriculum design	3
3	Staff	2
4	Facilities and learning resources	4
5	Study process and student assessment (student admission, student support, student 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 (poor) - meets the established minimum requirements, needs improvement

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

4 (very good) - the area is exceptionally good

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