STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vilniaus Gedimino technikos universiteto
STUDIJŲ PROGRAMOS *ARCHITEKTŪROS INŽINERIJA*
***(valstybinis kodas* – 621H20005)**
VERTINIMO IŠVADOS

EVALUATION REPORT of
***ARCHITECTURAL ENGINEERING* STUDY PROGRAMME**
(*state code* – 621H20005)
at Vilnius Gediminas technical university

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Išvados parengtos anglų kalba
Report language – English

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Architektūros inžinerija***
Valstybinis kodas	621H20005
Studijų sritis	Technologijos mokslai
Studijų kryptis	Statybos inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antroji
Studijų forma (trukmė metais)	Nuolatinė (1,5)
Studijų programos apimtis kreditais	90
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Statybos inžinerijos magistras
Studijų programos įregistravimo data	2014/04/14

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Architectural Engineering***
State code	621H20005
Study area	Technological Sciences
Study field	Civil Engineering
Type of the study programme	University studies
Study cycle	Second
Study mode (length in years)	Full-time (1,5)
Volume of the study programme in credits	90
Degree and (or) professional qualifications awarded	Master of Construction Engineering
Date of registration of the study programme	04/14/2014

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I. INTRODUCTION

1.1. Background of the evaluation process

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

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

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

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

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

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

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

1.2. General

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

No.	Name of the document
1	Minutes of Study Programme Committee 2016-05-24
2	Questionnaire about teachers

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

This evaluation report is based on the Self-evaluation report submitted by Vilnius Gediminas Technical University (hereafter VGTU) and a visit to the university by the review team on 28th November 2016, during which relevant facilities were inspected, the students' term and

course papers along with some examination material were briefly reviewed, and discussions were held with the following groups:

- senior management and faculty administration,
- staff responsible for the preparation of SER,
- teaching staff of the study programme,
- students of the study programme, and social partners.

VGTU is a state institution of higher education and research, one of the largest higher-education institutions in Lithuania. Its aim is to become leader in scientific engineering education and research in Lithuania.

There are nine faculties and one institute, all but one dealing with engineering, and a Faculty of Business Management. Three faculties offer programmes related to civil engineering: the Faculty of Environmental Engineering, the Faculty of Transport Engineering and the Faculty of Civil Engineering; there is also a Faculty of Architecture. The programme of Architectural Engineering is conducted by the Faculty of Civil Engineering, though some lecturers from the Faculty of Architecture are employed additionally.

According to the management interviewed, the Faculty of Architecture is the oldest as well as the main faculty to train architects in Lithuania. The faculty of Civil Engineering is the oldest of VGTU and focuses on civil engineering, while the Faculty of Environmental Engineering is focussed on urban construction. The panel inquired about the relationship of the various faculties to each other, particularly as to the overlap of study fields. They were told that the structure has historical reasons and that there may be changes in future.

One central problem is the fact that the graduates need further study to qualify for certification as architects in Lithuania. This is a serious and far-reaching issue which may put the programme into danger of existence, but cannot be solved by the faculty or even the university on their own. However, the panel recommend that the faculty keep up the hard work to promote their programme and work towards formal certification.

1.4. The Review Team

The review team was completed according *Description of experts' recruitment*, approved by order No. 1-01-151 of Acting Director of the Centre for Quality Assessment in Higher Education. The Review Visit to HEI was conducted by the team on *28th November 2016.*

1. **Prof. dr. Haldor Jochim (team leader)**, *Professor of Railway and Transport Planning, FH Aachen University of Applied Sciences, Germany.*
2. **Prof dr. Miroslav Premrov**, *Dean of Faculty of Civil Engineering, Transportation Engineering and Architecture, University of Maribor, Slovenia.*
3. **Assoc. Prof. dr. Tone Merete Muthanna**, *Associate Professor of Hydraulic and Environmental Engineering Dep., Norwegian University of Science and Technology, Trondheim, Norway.*
4. **Assoc. Prof. dr. Jelke Dijkstra**, *Associate Professor of Civil and Environmental Engineering Dep., Chalmers University of Technology, Sweden.*
5. **Dr. Dalė Daunoravičiūtė**, *Quality Manager at the public institution "Technical supervision services", Independent Consultant, Lithuania.*
6. **Ignas Gaižiūnas**, *Bachelor student in Energy Physics, Vilnius University, Lithuania.*

II. PROGRAMME ANALYSIS

2.1. Programme aims and learning outcomes

Architectural Engineering (MSc) is a second-cycle programme with 90 credits, leading to the degree of *Master of Construction Engineering*. It is offered in full-time mode only, with a study time of 1.5 years. Teaching language is Lithuanian. The programme was developed from a specialisation within the Construction Engineering programme and implemented in 2014.

According to the SER, the aim of the programme is the "education of architectural and engineering professionals' synergy in sustainable buildings' design, providing knowledge of the construction industry in research and innovation, to develop the abilities to conduct scientific work and self-improvement" (p.6 SER). It is distinguished from the likewise-called Bachelor programme by the emphasis on research, innovation and self-improvement.

There are two specialisations within the programme: Building Design Organisation and Building Architectural Engineering. Whereas the former focuses on the process of building, such as project coordination and legal frameworks, the latter specialises in the design of buildings. The graduates are supposed to become competent building project managers. For evidence, the panel studied the course descriptions as well as exam and final papers and interviewed alumni. The results are presented in the following paragraphs.

The faculty has defined five fields of skills and competencies: knowledge and their application, research skills, specific skills, social skills and personal skills. 14 sub-competencies are assigned to those fields, ranging from *Knowledge of the building design process organisation [...]* to the *ability to make innovative decisions, evaluating the potential societal and ethical*

consequences of the activities (Table 2.1 on p.6-7 SER). The definition of competencies is similar, but not identical to the descriptors for the corresponding Bachelor course. Table 3.3 (p.13 SER) shows the conformity of study results with skills. The skills mentioned in this table are grouped in the same way as those in Table 2.1.

The detailed description of the 2nd-cycle Architectural Engineering study programme's objectives and learning outcomes is available on the VGTU web site.

The learning outcomes of the programme are formulated on the basis of the description of study cycles and correspond to Level 7 of the Lithuanian Qualifications Framework according to the description of the structure of Lithuanian qualifications.

The rationale behind the programme is twofold: (a) the "lack of specialists with the required knowledge and skills as well as the necessary practical experience, and who are able to perform the functions of building project manager and would ensure a close relation between architectural and constructional solutions and other parts of the building project" and (b) that "the requirement of today is the design of buildings that need less fossil energy sources and that are able to stock the necessary energy, using […] renewable energy sources" (p.13 SER). That is distinct from the Bachelor level as to its focus on future developments in construction and is borne out in the modules, such as Sustainable Buildings' Design, Multifunctional Building Architectural Design, Building Design Process Engineering and Technology or Theory and Methods of Optimization in Architectural Engineering.

Table 3.3 (p.13 SER) plausibly shows the relationships between the programme courses and learning outcomes (knowledge and its application, research abilities, special abilities, social abilities and personal abilities). As several employers have been invited to take part in the development of the course, there is evidence for the programme fulfilling the needs of the profession and the demand of the market.

Though with just three graduates of the newly-created study course yet it is early to tell, it is likely that the graduates of the new course will generally find adequate work. The entrants into the course are graduates of Bachelor courses in the same subject; the SER states that it is difficult for students of other first-cycle-courses to successfully study the Master course "due to the insufficient knowledge of architecture" (p.15 SER).

The programme plan in Table 3.1 (p.11 SER) gives evidence of specialist subjects being taught in the area of Building Design and Management, thus verifying the claim of the faculty about its curriculum and proving that the title of the programme, its aims and objectives and the associated learning outcomes are compatible with each other and with the qualification offered.

The faculty maintains that there is parity between course units on art (architecture) and engineering; the study plan (Table 1 of Annex 8.3) gives evidence that this is broadly the case. Thus, the graduates of the programme have a unique set of skills, which distinguishes them from civil engineers and architects.

According to the programme management and the SER authors there is no structural collaboration with the Faculty of Architecture apart from invitation of some of their lecturers. Instead, the architectural part of the programme is conducted by the lecturers the Faculty employ themselves (about 50% of teaching staff). If the supervisor of a thesis or coursework is from architecture the consultant is from structures and vice versa, to support the general content division of 50% aesthetics and 50% structures. From the point of view of the panel, the non-collaboration with the Faculty of architecture may be a missed opportunity, but is assessed neither in a positive nor a negative manner as to the quality of the programme. The 50/50 approach is unambiguously supported.

Since Architectural Engineering has not yet been added to the areas and fields of studies list of Lithuania the graduates of the programme have not been certified as architects.

The panel inquired about the naming of the degree in 'Construction Engineering', which turned out to be a translation problem from Lithuanian into English. The panel recommend using the internationally common degree of 'Civil Engineering', in order to avoid possible confusion of Construction Engineering with Structural Engineering.

2.2. Curriculum design

The structure of the curriculum conforms to the ECTS system, meets legal requirements and the programme fully complies with the General Requirements of Lithuanian regulations for Higher Education. The total workload of 90 ECTS is allocated equally between the three semesters of the study programme. Overall, the panel appreciate the unique approach of both the Bachelor and the Master programme to structural design as part of building as a system, thus bridging structural engineering and architecture. The course curriculum displays specialised and advanced subjects from architecture and civil engineering, underlining the claim of the course. However, though the scope of the programme provides the breadth needed to achieve the learning outcomes the panel are not convinced about its depth (see the last paragraph).

Each of the three semesters includes five study subjects, which means that formal regulations are met. The master thesis is split into three parts (3+3+24 ECTS) over all three semesters. Compulsory general-education subjects do not appear in the course, as international convention is that graduates are supposed to have generic competences already.

The choice of a topic for the thesis early in the course is unusual in an international context. The faculty explained that this is organised in continual dialogue with the students; they start with a broad idea, which is later narrowed down to a specialised topic.

The module descriptors are focused on learning outcomes rather than on detailed prescriptions of course contents; they are consequently designed according to the structure of the competences the faculty has defined. In this respect they are a good example of what module descriptions should be like.

Evidence that the latest achievements in science and technology are taken into account is usually provided by participation of students in research projects. In architecture, science is often replaced by extensive project work about architectural design. Additionally, the writing of the Master thesis serves the improvement and evidence of research skills. If the fact is taken into account that the subject of the theses is identified early in the course, one should expect comprehensive and innovative papers showing either outstanding design expertise or in-depth scientific analysis. The resulting master theses, though, failed to convince the panel that this was the case. All three theses the panel saw were non-design papers, restricting themselves on mainly receptive analysis of building phenomena without either many innovative ideas or any major input from the seemingly highly sophisticated course subjects. As the panel were shown just three master theses there is still opportunity to improve on that deficiency, which should be checked again at reaccreditation. As one remedy of this problem the panel suggest transferring some of the more scientific contents from the Bachelor course to the Master course, thus relieving the workload of the Bachelor course and simultaneously improving the scientific level of the Master course.

2.3. Teaching staff

The composition of the teaching staff complies with the requirements set by Lithuanian regulations for second-cycle study programmes, i.e. more than 80 per cent of the study field subjects should be taught by teachers who have a doctorate. According to Tables 4.1 and 4.2 of the SER, 17 of 22 teachers (78%) have a doctorate. Those without a doctorate teach only part-time, which means that the requirement is fulfilled with reference to study hours.

The teacher-students ratio varies between 1:1.3 for associate professors and 1:2.7 for full professors and other lecturers, according to Table 4.3 (p.17 SER). The calculation method of the teacher-students ratio appears to be prescribed by regulation, but does not take into account that some teachers are employed part-time and others may hold lectures in several courses, thus sharing their time between more students than the figure suggests. Notwithstanding this criticism, the programme is supported by an adequate number of teachers, including both academics and

practitioners in order to deliver the intended learning outcomes. During the site visit the panel confirmed this assessment by seeing competent and exceptionally highly motivated teachers.

Overall, the composition of staff presents a strong advantage for this programme, showing a large spectre and a well-balanced distribution (Tables 4.1 and 4.2, p.16 SER). Almost all teachers also have practical experience. It appears that teaching staff provide a rich variety of ages, academic and contextual backgrounds. The turnover has been nil, providing the course with a high degree of stability as to the teaching staff.

In the period 2014-2015, four foreign lecturers spent some time at the faculty, whereas 14 visits to other universities of lecturers of the faculty took place. Some people travelled more often than others, which reduces the actual number of lecturers who went abroad to seven (Tables 4.7 and 4.8, p.19 SER). Given the short period of assessment, that is still a significant achievement.

The faculty stipulates that pedagogical and didactic qualifications of their lecturers are sufficient, deriving this from their mostly considerable experience in teaching. According to the SER, "each teacher of the programme has to improve their qualification at least once per five-year tenure and undergo 1-4 months training at enterprises or research centres." Four teachers did so in the period 2012-2015 (Tables 4.5 and 4.6, p. 18 SER).

Additionally, "teachers visit classes conducted by their peers and discuss the results" (Table 7.7, p.31-32 SER), which is not the "formal teaching staff peer evaluation" recommended by the previous external assessment of the programme in its previous form. This system appears to lead to good results, but the panel recommend that peer evaluation should also be included in binding formal documents (see also Chapter 2.6).

According to the teachers, the workload of 800 hours in total per semester consists of 30% contact hours, 40% preparation work and 30% research and administration. The panel comments that, the teaching load is rather high, limiting the capacity for research. The requirement for professors to publish a minimum of one paper per year in an international journal could be a stretch given their overall workload.

The fact that two large research projects were conducted at the faculty provides evidence for commitment into research. It appears plausible that the needs of those projects may have absorbed the research capacity of the faculty.

Publications have been frequent, though a high share of them has been published in *Technika*, which appears to be the domestic publishing instrument of VGTU and whose significance in science seems to vary between sciences. On the other hand, a full-professor degree requires the authorship of five SCI papers, two of which in foreign journals.

As to the scientific activities of lecturers, "each teacher of the programme has to improve their qualification at least once per five-year tenure and undergo 1-4 months training at enterprises or research centres (p.18 SER)". 11 teachers (about 50% of all teachers) did so in the period 2012-2015 (Table 4.3 on p.17 SER), which is a good achievement. There is also encouragement of publications and attendance of scientific conferences. The faculty organises a scientific conference itself, and the university hosts an annual conference for young researchers. 5 out of 22 lecturers attended conferences in 2014-2015 with two reports held. Keeping in mind that the assessment period is just two years, the panel think the figure has been adequate so far.

Overall, the commitment for research is not in doubt, but hard to prove after just two years since the implementation of the course. Since a corresponding Bachelor programme is offered at the same faculty, the assessment of that programme can be taken as a proxy for the assessment of the Master programme.

2.4. Facilities and learning resources

The facilities for the Master programme are identical to those of the Bachelor programme in the same faculty. Therefore, the assessment of advantages and disadvantages is very similar in both cases, which is reflected in the text of this chapter.

The SER provides overall figures for material resources in terms of premise area and classroom places. It also mentions the availability of computers and printers for students and its VPN service for working at home. The panel found everything mentioned in place and also a plotter. That means the essential requirements are fulfilled. As to space, there is one 313 m² room for project work, and several general classrooms. There are more rooms in other buildings, so that the overall supply of working space is good. However, it remained unclear how attractive and widely used by the students the dislocated rooms are.

With a view on the Master programme, one might assume that there is less design but more scientific work compared with the Bachelor programme, thus limiting the requirement of design ateliers but possibly raising the demand for quiet working rooms. As the panel saw only an atelier, classrooms and computer rooms, there might be a lack of these kinds of rooms. On the other hand, the number of master graduates is still small. The panel therefore suggest that the faculty should keep an eye on the special requirements of the master students with the reaccreditation in mind.

The quality of the library was also evaluated by the panel. From the SER of another programme the panel evaluated together with *Architectural Engineering* it had been known that it is among the most modern in Lithuania, with long opening hours, owning paper as well as electronic literature and providing students with workplaces as well as books to take home for study. For

research, there is a modern electronic search system linking several Lithuanian libraries. The reading room visited by the panel is fairly small, but there are more reading rooms in other buildings, so that the library facilities appear to be satisfactory. The computer rooms are adequately equipped and available.

The panel looked at the teaching material, with a special focus on the material of the creative part of the course. It found that books on the specialities of the subject are available either in the library or in the Moodle system.

2.5. Study process and students' performance assessment

Admission requirements are set following the admission procedure approved by the Association of Lithuanian Higher Education Institutions for joint admission organisation (LAMA BPO) and are appropriate for the type and orientation of the programme.

As usual in a second-cycle programme only successful graduates of first-cycle programmes are eligible. The faculty admits only candidates who have "passed all the compulsory subjects exams and carried out course works with adequate number of credits to the chosen study programme" as published on the VGTU web site (p.24 SER): Mathematics 12 credits, Engineering and Computer Graphics 7 credits, Information Technologies 4 credits, special programme subjects 37 credits. Candidates who do not have all credits from the first-cycle subjects prescribed are allowed to undergo examinations of the missing subjects and thus may also be enrolled.

All applicants, including the graduates of the Bachelor programme of the faculty, are taken into the competitive-grade system of the university. The panel was informed that the competitive-grade system is the same as with admission to the Bachelor course.

There was a significant drop in students admitted to the programme in 2015 (Table 6.1 on p. 23 SER), which leaves the programme at the minimum number of students. During the site visit students reported that they had heard about the course mainly by word-of-mouth. The panel recommends the programme to be advertised more aggressively and to think about advertising the possibility of admission for students who do not come from the Bachelor course in Architectural Engineering.

The study process serves the aims and objectives of the programme. There is a blend of academics and practitioners in the teaching staff. The involvement of specialists as guest lecturers is, however, negligible, with the exception of foreign professors. It might be useful to employ guest lecturers with outstanding competences in specialities.

Of the six students admitted in 2014, half have proceeded from the matching Bachelor course. Three have graduated, whereas the other three have probably dropped out (Table 6.2 on

p.25 SER). These are not official figures as the faculty, due to the young age of the programme, was not able to calculate the dropout ratio yet. On inquiry about the decreasing number of students in the programme, the panel were told that, since 2008, the government has reduced the number of state-funded places. As it is expensive for students to pay for themselves (2,500 EUR/year in technical programmes), only 10-15% are in non-state funded places (350 total in Lithuania, compared with 1,400 state-funded places at VGTU alone). Hence this is a general problem for all courses, not a particular one for this programme only.

Support for the students within their studies is provided by several means. At least once per semester, the faculty organises "meetings with the student representatives of all academic groups and teachers to discuss the quality of studies and drawbacks of the study process" (p.25 SER). Students' Representatives are also active in organising the dialogue between students, teachers and administration. The Moodle platform is used for information and consultation, though students reported that some members of the teaching staff do not use it.

Further social support is provided by several scholarships and grants given by the VGTU as well as external stakeholders. Additionally, there are scholarships for taking part in cultural, sports and other public activities and for high academic achievements. Rooms in dormitories are provided for students from outside Vilnius.

The Integration and Career Office of the university assists students in finding jobs, managing connections etc. As they do not have either specialists for the profession nor the power to interfere with the certification problem, the panel presume their use is moderate.

The SER explains the general setup of the assessment scheme. There is a mixture of continuous assessment and assessment by exams. The variety of assessment and exam methods is explained in the course descriptions.

As for the professional activities of the graduates, the SER states that "the majority of graduates are employed in the field". With only three graduates so far, that is an easy assertion to be made; it should be re-examined at reaccreditation.

Students have the opportunity to participate in research in several ways: by taking part in the annual VGTU conference "Science – the Future of Lithuania", the Smart City competition, by practice in the training laboratory of the Department of Reinforced Concrete and Masonry, and by several competitions related to construction.

Students do not go abroad for study during the course. Teachers maintain that students often go abroad for work. As they often work parallel to their studies, the panel do not regard this as a satisfactory way of gaining foreign academic experience; it may even lead to less study effort. As the Master course has a short time span it is, however, explicable that students do not study abroad.

According to the panel, the emphasis could be laid on attracting more of them to study abroad during their Bachelor courses.

There have not been incoming students. The panel recommends at least one programme to be held fully in English, for that problem to be overcome more easily. A first successful attempt in that direction has been the International Summer School with California Polytechnic State University, attended by 30 foreign plus 12 local students.

2.6. Programme management

The programme management for the Master programme is organised by the same people along the same lines as that of the Bachelor programme in the same faculty. Consequently, the texts in the SERs are almost entirely identical, and during the site visit no relevant distinctions were made between the programmes. Therefore, the assessment of the quality of the programme management is almost identical for both programmes too, which is reflected in the text of this chapter.

The Study Programme Committee, Faculty Studies Committee and Faculty Council are the organisations in charge of the programme management. The Studies Committee considers and submits the newly prepared or improved study programmes and courses. "The execution of the study programme, as well as the continuous control and monitoring of the process, is carried out by the Study Programme Committee" (p.30 SER). All committees are staffed with teachers, students' representatives and other stakeholders.

There is not much information about what data are used in the process of programme management and how they are collected. The students did not know their representatives in the relevant committees; neither did they know the competences of that committee. Therefore, it remained unclear how the feedback to students, teachers and stakeholders not represented in the relevant committees is organised. Apparently, students' representatives are not involved in the Study Programme Committee, which is seen as unfortunate.

There is no formal system for students to give a feedback about teaching during a semester; from meeting with students it was learned that just one teacher does this informally. Students would appreciate the opportunity to give feedback during semesters, since it would strengthen their overall motivation to give feedback more actively. A formal quality control system for student feedback would be advisable to look into.

As to the qualifications of the lecturers, "each teacher of the programme has to improve their qualification at least once per five-year tenure and undergo 1-4 months training at enterprises or research centres." (p. 18 SER). Four teachers did so in the period 2012-2015 (Tables 4.5 and 4.6,).

Currently, “teachers visit classes conducted by their peers and discuss the results” (Table 7.7, p.31-32 SER), which is not the “formal teaching staff peer evaluation” recommended by the previous external assessment of the programme. This system appears to lead to good results, but the panel recommend that peer evaluation should also be included in binding formal documents (cf. Chapter 2.3).

Alumni keep contact with the university informally through personal connections with teaching staff and common projects. Furthermore, they receive annual surveys from the faculty via e-mail.

VGTU regularly carries out three types of student survey (p.31 SER):

“1. A survey of all university students on subjects taught and the teachers who conducted the lectures.

2. A first-year undergraduate student opinion survey on the choice of the studies at the University.

3. A first-year graduate student opinion survey on the quality of the undergraduate studies.”

The third type of survey covers alumni, who work for about 80 organisations overall. Social partners of the department are also involved in the work of the Study Programme Committee and the Faculty Studies Committee (p.8 SER), though their contribution is not anchored in official documents.

Unfortunately, the information provided in the SER and on-site did not refer explicitly to the Bachelor or Master programme but on both programmes. Given the smaller number of Master graduates in relation to the graduates of the Bachelor programme, there is some danger of relevant information for the Master course being overlooked. In future, the feedback results should be processed and presented with a clearer distinction between the Bachelor and Master course.

Generally, though, it can be assumed that the data gained from the surveys mentioned are the main source for internal and external evaluation, used by the committees mentioned above.

Quality assurance is regulated by a variety of organisations, papers and regulations, which were given to the panel after the site visit. The requirements as to the documentation of the QA processes are thus fulfilled, at least minimally.

III. RECOMMENDATIONS

1.
The panel recommend using the internationally common degree of 'Civil Engineering' in translations into English, in order to avoid confusion of Construction Engineering with Structural Engineering.

2.
There should be more emphasis on the backgrounds of structural engineering and the scientific level of the course should be improved. One way of doing this would be by transferring some of the more scientific contents from the Bachelor course to the Master course, thus relieving workload of the Bachelor programme and simultaneously improving the scientific level of the Master programme.

3.
Attendance and the commitment to self-improvement are honoured by a small financial award for lecturers. Since these visits are informal with no records available the panel recommend that peer evaluation should also be included in binding formal documents.

4.
It is recommended that more foreign lecturers and social partners are attracted for teaching.

5.
Considering what architects usually regard as necessary for their practical work, the present room situation should be improved.

6.
The programme is recommended to be advertised more aggressively. The admission procedure for students who do not come from the Bachelor course in Architectural Engineering should be more transparent and better advertised.

7.
There should be better feedback of the evaluation results to the students and better involvement of the students in the quality process.

IV. SUMMARY

The panel laud the passion the faculty and its teaching staff have displayed for conducting the programme.

The programme occupies a relevant market niche, bridging architectural and civil-engineering competences and educating internationally attractive graduates. It offers good prospects on the job market, especially with additional qualification as architects.

There should, however, be more emphasis on the backgrounds of structural engineering, since the internal knowledge of structural subjects and insight into software is not deep enough. Some lack of depth is also identified as to the scientific quality of the thesis papers. Given the ambition presented in the learning outcomes of the modules, more should be achievable.

There is a great variety of teachers and low fluctuation (zero during the previous two years), which provides for high-quality teaching and smooth conduct. During the site visit the panel met competent and exceptionally highly motivated teachers, who are the most valuable asset of the programme.

Organisational improvements, such as intensifying the relationship with the Faculty of Architecture, might further improve the recognition and the publicity of the programme.

Though the requirements as to the documentation of the QA processes are fulfilled, there should be better feedback of the evaluation results to the students and better involvement of the students in the quality process. The faculty might try harder to motivate them to take part in committees.

V. GENERAL ASSESSMENT

The study programme *Architectural engineering* (state code – 621H20005) at Vilnius Gediminas technical University is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation of an area in points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	2
3.	Teaching staff	4
4.	Facilities and learning resources	3
5.	Study process and students' performance assessment	3
6.	Programme management	2
	Total:	**17**

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;
2 (satisfactory) - meets the established minimum requirements, needs improvement;
3 (good) - the field develops systematically, has distinctive features;
4 (very good) - the field is exceptionally good.

Grupės vadovas:
Team leader: **Prof. dr. Haldor Jochim**

Grupės nariai:
Team members: **Prof. dr. Miroslav Premrov**

Assoc. Prof. dr. Tone Merete Muthanna

Assoc. Prof. dr. Jelke Dijkstra

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Vertimas iš anglų kalbos

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO ANTROSIOS PAKOPOS STUDIJŲ PROGRAMOS *ARCHITEKTŪROS INŽINERIJA* (VALSTYBINIS KODAS – 621H20005) 2017-03-14 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-52 IŠRAŠAS

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Vilniaus Gedimino technikos universiteto studijų programa *Architektūros inžinerija* (valstybinis kodas – 621H20005) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	2
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* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)
2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)
3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)
4 - Labai gerai (sritis yra išskirtinė)

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IV. SANTRAUKA

Ekspertų grupė giria fakulteto ir dėstytojų atsidavimą vykdant šią programą.

Studijų programa užima atitinkamą nišą rinkoje, sujungdama architektūros ir statybos inžinerijos gebėjimus ir rengdama tarptautiniu mastu patrauklius absolventus. Ji siūlo geras perspektyvas darbo rinkoje, ypač turint papildomą architekto kvalifikaciją.

Tačiau reikėtų labiau akcentuoti struktūrinės inžinerijos pagrindus, nes vidinės struktūrinių dalykų žinios ir supratimas apie programinę įrangą nepakankamai gilūs. Tam tikro gilumo taip pat trūksta kalbant apie baigiamųjų darbų kokybę. Atsižvelgiant į ambicingus siekius, nurodytus studijų dalykų rezultatuose, turėtų būti pasiekiama daugiau.

Dėstytojų įvairovė didelė, o kaita maža (nulinė per paskutinius dvejus metus), todėl užtikrinamas aukštos kokybės dėstymas ir sklandus programos vykdymas. Lankydamasi universitete, ekspertų grupė susitiko su kompetentingais ir ypač motyvuotais dėstytojais, kurie yra didžiausia programos vertybė.

Organizacinių dalykų gerinimas, pavyzdžiui, ryšių su Architektūros fakultetu stiprinimas, gali dar labiau pagerinti studijų programos pripažinimą ir viešumą.

Nors kokybės užtikrinimo procesų dokumentavimo reikalavimų laikomasi, reikėtų geriau informuoti studentus apie vertinimo rezultatus ir labiau juos įtraukti į kokybės užtikrinimo procesą. Fakultetui reikėtų dėti didesnes pastangas motyvuojant studentus dalyvauti komitetų veikloje.

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III. REKOMENDACIJOS

1. Ekspertų grupė rekomenduoja vertimuose į anglų kalbą naudoti tarptautiniu mastu įprastą laipsnio pavadinimą „Civil Engineering“, norint išvengti statybos inžinerijos painiojimo su struktūrine inžinerija.
2. Reikėtų labiau akcentuoti struktūrinės inžinerijos pagrindus ir kelti mokslinį studijų programos lygį. Vienas iš būdų tą pasiekti – perkelti tam tikrą labiau mokslinio turinio dalį iš bakalauro studijų programos į magistrantūros studijų programą, taip sumažinant bakalauro studijų programos krūvį ir pakeliant magistrantūros studijų programos mokslinį lygį.
3. Už dalyvavimą profesinio tobulinimosi kursuose ir įsipareigojimą tobulintis dėstytojams skiriamos nedidelės finansinės premijos. Kadangi šie vizitai į kolegų dėstomas paskaitas yra neoficialūs ir nėra fiksuojami, ekspertų grupė rekomenduoja kolegų vertinimą įtraukti į privalomuosius formalius dokumentus.
4. Rekomenduojama pritraukti daugiau užsienio dėstytojų ir socialinių partnerių.
5. Atsižvelgiant į tai, ko architektams paprastai reikia praktiniam darbui, dabartinę patalpų situaciją reikėtų gerinti.
6. Reikėtų energingiau reklamuoti studijų programą. Ne architektūros inžinerijos bakalauro studijų programą baigusių studentų priėmimo tvarka turėtų būti skaidresnė ir geriau reklamuojama.
7. Reikėtų geriau informuoti studentus apie vertinimo rezultatus ir labiau juos įtraukti į kokybės užtikrinimo procesą.

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

Vertėjos rekvizitai (vardas, pavardė, parašas)