



STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

Vilniaus Gedimino technikos universiteto

**STUDIJŲ PROGRAMOS**

***MIESTŲ PLANAVIMAS IR INŽINERIJA (621H27001)***

**VERTINIMO IŠVADOS**

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**EVALUATION REPORT**

***OF URBAN PLANNING AND ENGINEERING (621H27001)***

**STUDY PROGRAMME**

at Vilnius Gediminas technical University

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Išvados parengtos anglų kalba  
Report language - English

Vilnius  
2016

## DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	<i>Miestų planavimas ir inžinerija</i>
Valstybinis kodas	621H27001
Studijų sritis	Technologiniai mokslai
Studijų kryptis	Statybų inžinerija
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Antra
Studijų forma (trukmė metais)	Nuolatinė (2)
Studijų programos apimtis kreditais	120
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Civilinės inžinerijos magistro laipsnis
Studijų programos įregistravimo data	2010-02-01, Nr. 1-01-12

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## INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	<i>Urban planning and engineering</i>
State code	621H27001
Study area	Technological sciences
Study field	Construction Engineering
Type of the study programme	University studies
Study cycle	Second
Study mode (length in years)	Full time (2)
Volume of the study programme in credits	120
Degree and (or) professional qualifications awarded	Master's Degree in Civil Engineering
Date of registration of the study programme	February 1st 2010, No. 1-01-12

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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.	Examples of student questionnaires
2.	Timetable of students
3.	Department action plans
4.	List of incoming/visiting teachers

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

This report presents the findings of an evaluation of the master programme *Miestų planavimas ir inžinerija* (621H27001). This two year full-time (3 years part-time) programme leads to a Master of Urban Planning and Engineering qualification.

This report is based on an analysis of the document “Civil Engineering Study Programmes. Urban Planning and Engineering (State Code 621H27001). Summary of Self-Assessment, Vilnius, 2016” (consisting of 31 pages main text, excluding annexes) and information gathered by the Review Team during a site visit to Vilnius Gediminas Technical University on 16 November 2016.

The site visit included:

- discussions with senior faculty administration staff,
- discussions with staff responsible for preparation of Self-Evaluation Reports (SER),
- discussions with teaching staff,
- discussions with students,
- discussions with employers of graduates and alumni,
- inspection of student coursework including final year projects,
- inspection of teaching premises and equipment including auditoria, library, computing facilities and laboratories.

The Review Team found it necessary to get clarification of some issues reported in the SER and was satisfied with the clarifications provided during the site visit.

It is worth mentioning that the same Review Team also evaluated the bachelor and master of Construction Technologies and Management (612J80003, 621J80003 resp.), the bachelor of urban engineering (612H27001) and the masters of Road Safety Engineering (621H22001) and Civil engineering (621H20002). Many common aspects were present in these programmes. Therefore, the corresponding evaluation reports may contain some duplicate comments due to identical data, situation or concerns in order to be read independently.

The review was conducted in accordance with current regulations and guidance furnished to the Review Group through documentation and training by SKVC. The Review Group was also expertly assisted by Mr. Pranas Stankus in discharging its responsibilities to SKVC.

#### **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 17/11/2016.

- 1. Prof. Philippe Bouillard (team leader)** Head of BATir (Civil, Architectural and Urban Engineering) department at Université Libre de Bruxelles, (Belgium);
- 2. Prof. Alfred Strauss**, Head of the Institute of Structural Engineering at University of Natural Resources and Life Sciences (Austria);
- 3. Prof. Tõnu Meidla**, Head of Department of Geology at Faculty of Science and Technology in University of Tartu (Estonia);
- 4. Prof. Juan Martinez**, Professor of Civil Engineering at (Institut National des Sciences Appliquées (INSA) of Rennes (France);
- 5. Dr. Mindaugas Gikys**, Director of joint stock company AIF (Lithuania);
- 6. Mr. Simonas Bulota**, PhD Student in Material Science at Kaunas University of Technology (Lithuania).

## **II. PROGRAMME ANALYSIS**

### ***2.1. Programme aims and learning outcomes***

The aims and the learning outcomes of the master programme of Urban Planning and Engineering are clearly defined in the study programme document which is easily accessible through the website of the University and available both in Lithuanian and English languages. The programme aims are focused on solving “the tasks of urban, regional and territorial development” which presents the general frame of the speciality.

The programme learning outcomes have been revised in 2014 in order to be in compliance with the requirements of the Ministry of Education and Science and with the European qualification framework. It distinguishes five groups of outcomes: knowledge and its application, research skills, special skills, social skills and personal skills. Each group is detailed into course descriptors, which produces a quite complete set of the expected outcomes. The Review Team further suggests considering more specific statements in order to make the assessment easier.

The programme aims of Urban Planning and Engineering mention “the Impact of EU integration and globalisation processes on the [...] urban development of Lithuania” that may be considered as a main challenge for the country. To tackle this challenge, the need for high level specialists with a master degree is manifest, as they must cope with a new environment and be able to propose innovative and original urban solutions, not only within the Lithuanian context but at European level as well. The corresponding skills are well identified in the learning outcomes of the study programme.

The Self Evaluation Report states that “there are around 100 functioning companies in Lithuania working in the field of urban planning and design, urban infrastructure management.” An increase of the number of high level specialists in the field is thus necessary to rise up the competence and the competitiveness of these companies, either private or public.

Alumni and social partners met during the visit both confirm the demand of graduates by the labour market. Moreover, the employers expressed their satisfaction with the competence and skills of the programme graduates. They maintain contacts with the university people involved in the programme through internships, guidance of students and participation in the presentations of students’ final thesis. The contacts with the university appear to be mainly personal or informal; the participation in official study programme committees does not seem to be systematic.

In the detailed list of learning outcomes, frequent keywords can be found like “scientific research”, “innovations”, “newest scientific achievements” and “innovativeness” that are consistent with the intellectual autonomy required at the level of a master degree. This distinguishes the present master degree from the corresponding bachelor degree outcomes, more focused on application tasks.

Additionally, management and social skills, mentioned in the programme, are also part of second degree requirements, especially in the speciality field which concerns both technical and social issues. This is also reflected in most of the final thesis subjects that are positively nurtured by real-life applications.

The duality of the programme of Urban Planning and Engineering is clearly reflected by its title that intends to find a balance between the above mentioned components, but it is unfortunately lost in the awarded degree titled “Master of Urban Engineering”. The double competence offered by the programme could be more clearly stated in order to better identify it among the nine master programmes proposed by VGTU in Civil Engineering, some of them appearing closely related. The need of clarification was also pointed out in the last accreditation report that highlighted the urban engineering component. The Review Team recommends that VGTU examines the more efficient use of resources in that regard.

## ***2.2. Curriculum design***

The Urban Planning and Engineering master programme respects the legal requirements for second level studies ordered by the University and the Ministry of Education and Science, in terms of total volume of credits, number of credits of study field subjects, number of credits allocated to the thesis work and volume of independent work. The recommendations of the previous accreditation report concerning an update of the number of credits have been followed.

According to legal requirements, no more than five subjects are studied per semester, except in the first semester where six modules are found, if we take into consideration the module “Master Graduation Thesis 1” that consists of 80 hours personal work dedicated to the choice of the thesis topic and to the collection and analysis of literature.

The study subjects are spread evenly throughout the four semester duration of studies, allocating 30 credits per semester (120 ECTS total). The study subjects present a good balance between engineering type and planning type modules. In the second and third semesters, in addition to compulsory study subjects, students may choose one among two optional modules that may raise students’ interest and motivation.



No frequent overlap of subject contents is observed among the modules. Exceptionally, some similar keywords are found in the modules of Urban Infrastructure and Urban Engineering Network, taught by different persons, and concerning energy, water supply, waste management... Harmonisation of these modules content could avoid possible repetitions. With respect to international standards, an upgrade of the master curriculum could be considered in terms of multimodal mobility, multidisciplinary approach and digital urban modelling.

Preparation of the master thesis continues throughout the whole period of studies and is assessed by a grade (3 ECTS) at the end of each of the first three semesters; the fourth semester being fully devoted to the completion of the thesis. The long thesis duration allows the students to deepen their research, produce more complete work and facilitate continuous connections between theoretical subjects offered during the studies and real-life applications.

Compared to the first cycle studies of Urban Engineering, the present master programme of Urban Planning and Engineering offers a wider view of urban problems, as beyond purely technical questions, it addresses also social issues. This wider view is also visible when comparing master modules to corresponding study subjects of the Urban Engineering programme. Similar differences are particularly observed in the final thesis subjects: though Master theses are based on real examples, the subjects raise wider questions allowing the students to develop analytical and research skills.

As part of students competences can be achieved through practical works, a consensus exists among the students, alumni and employers to increase the practice activities during the studies. These objectives could be partly achieved as well by a larger participation of students in research activities.

There is no doubt that being involved in research activities, the teaching staff is able to share with the students advanced scientific achievements through learning activities. However, student access to international expertise and publications is not enough reflected in the courses references or in the references list of the students' reports, predominantly written in Lithuanian. From the visit to the department new library equipped with modern facilities, progress is expected regarding this aspect. Moreover, when examining the final theses, the Review Panel noticed major deficiencies in citations to the literature and recommends strengthening urgently expectations in this regard.

Foreign language skills should be improved by offering more courses and study material in foreign languages (mainly English) and by requesting coursework and assignments in English. This is a repeated recommendation from the last accreditation report; urgent measures need to be taken.

### ***2.3. Teaching staff***

The self-evaluation report shows that the study programme on urban planning and engineering were given by 14 teachers from six VGTU departments. 11 of them delivered classes as well as practical and laboratory work. In the academic year of 2013/2014, 12 teachers (85.7 %), and in the year 2016 all teachers (100%) had scientific degree. The Review Team confirms that the study programme on urban planning and engineering fully meets the legal requirements. The qualifications of the teaching staff are adequate to ensure the learning outcomes. As can further be seen from the documentation and discussions with the teaching staff, teachers of the Department of Urban Engineering have carried out qualifying scientific work during the assessment period.

In the Review Team opinion, while the number of the teaching staff is too high in view of the future of the study programme, it is perfect to ensure the learning outcomes. With the changing number of teachers, the teacher/student ratio decreased by 13.8 % during the assessment period. The ratio of the amount of teachers and students amounts to about 0.58 teachers per student, which of course has a very positive effect on the education of the students of this generation, but is very ineffective in view of the long-term prospective of the programme. The Review Team strongly recommends the development of strategies for increasing the number of students.

All teachers fulfil the qualification requirements stipulated by Lithuanian legal regulation. The increase of the number of involved professors would be of benefit for the study programme.

It can also be confirmed that the international science education of teachers is accomplished continuously, as also established by SER. For example, during the analysed period, the teachers of the Department of Urban Engineering participated in 21 conferences and prepared 15 reports, 12 of which were published in conference proceedings. The teachers of the Department of Urban Engineering also actively participate in teachers exchange programmes.

The pedagogical experience of teachers in the study programme ranges from 5 to 47 years. The Review Team confirms that based on the teacher's course descriptions and scientific activities, it is evident that their scientific activities and research areas are closely related to the taught subjects. Various forms of qualification improvement are used, the most popular being traineeships, training courses, and academic exchange. Based on the interviews, it can also be concluded that teachers constantly improve their skills and enhance their qualifications by taking part in various national and international conferences and exhibitions, in various international projects, and in collaborations with experts in the field of their interest. Nevertheless, the Review

Panel recommends developing training and workshops for the Teaching staff in order to enhance the coherence between learning outcomes, methods and assessment.

Based on the interviews with both faculty staff and administrative staff, it can be confirmed that the majority of teachers within the programme are recruited to their positions on the basis of a public competition. As part of the employment procedure, the faculty certification committee's assessment, the faculty council's decisions as well as the department staff's opinions are taken into consideration.

It can also be confirmed by the Review Team that the faculty and dean's office administration provides the teachers with possibilities to improve their qualifications: teachers participate in both international and national conferences, exchange programmes, and traineeships at foreign universities. The teacher's English language skills are being improved by the maintenance of international relations, participation in international projects, publishing articles and research results in foreign publications. Also, the teachers of the Department of Urban Engineering constantly improve their qualifications, participate in international projects, and attend English language courses organized by VGTU and other organisations. The Review Panel recommends further engaging the Faculty members in international projects in order to share the best practices related to the field.

The provided documents and the data of the analysis proved that 64% of the study programme teachers are less than 40 years old, 21% are 60 years old or older. The Review Team considers this structure as very positive.

As is evident from the regulations and the provided documentation, the teachers' workload does not exceed the statutory requirements. The majority of the analysed programme teachers are also involved in the implementation of other study programmes. In consequence, their work load in the programme makes up only a small fraction of their general teaching load. The general academic workload is 1,382.50 hours, which included 288.50 hours taught by professors

#### ***2.4. Facilities and learning resources***

VGTU makes auditorium rooms, dedicated laboratories, reading rooms within the library and specialised databases and software available to the students. 25 auditorium rooms are available with some recently renovated. The classes take place in the premises of the Faculty of Environmental Engineering, Saulėtekio al. 11 and the Urban Engineering Department laboratory, Linkmenų str. 28. There are no problems to use two different locations because there is no need

to travel to any other location on the same day. There are plans in the future to move the laboratory from Linkmenų str. 28 to Saulėtekio Avenue 11.

Modern and operational multimedia equipment, including internet connection, is available in the rooms, sometimes sponsored by social partners. Health and safety conditions of auditorium rooms are complying with the regulations. The students have the opportunity to work in the main class rooms with 30 places and computer room with 20 workplaces (department of Roads). An additional computer room (15 places) is available as well in the laboratory of Urban Traffic. The Review Team considers that the premises are very well equipped and suitable to deliver the programme.

The students are not trained to perform experiments in the laboratories in this programme but some final thesis requires experimental work. The laboratory equipment and measurement instruments are relevant for this purpose. The equipment is maintained operational and renewed. The safety conditions in laboratories should however be improved by clearly demarcating restricted areas where appropriate. A further attention should be given to training the students to health and safety issues in laboratories, beyond getting their signature on a standard form.

The students are trained to use specialised software as well. The list of software is sufficient for the study process. The programmes are up-to-date and useful for the urban engineering market. A better attention should be given however on further implementing the BIM software and collaborative approach in the study programme.

The accessibility to resources for undergoing practical training is good. The Departments are participating in the real-life projects, performing feasibility analyses, developing collaboration with several Lithuanian Associations, municipalities and private companies. The departments have developed relevant collaboration with the social partners and are making effort to support the students in getting in contact with practical case-studies.

VGTU has a Central Library with 11 reading rooms and 330 working places. The Central library offers very flexible working time and access to databases, books, journals and other e-resources. The Central library is also providing printing, scanning, binding services.

Recent books and journals are available in English and Lithuanian both in the Central library and reading rooms. There are also some specialised books in Lithuanian published by VGTU which also edit their own scientific journals. During the study process, the students have the opportunity to use ALEPH computer system, which includes 10 Lithuanian libraries, and the Lithuanian Standardisation Department database.

The teachers are using handouts, slide presentations, videos, special equipment and software. The teachers and students are using the learning management system Moodle. The Review Panel appreciates the large use of Moodle but recommends considering further its possibilities and other internet tools, beyond the basic information transfer. The number of resources available in Lithuanian and English are suitable for the study process.

### ***2.5. Study process and students' performance assessment***

The admission to the Urban Planning and Engineering master programme is open to students holding a bachelor degree in Construction, Architecture or Environmental engineering. Graduates must fulfil requirements for general and special completed subjects. There is no entrance exam and all applicants are rated by weighting bachelor degree final grade, subject exams marks and research papers. Admission is organised by the Student Admission and Information Centre of University.

Considering the number of applications for the period 2011 to 2015, there is a fair degree of interest for the full-time study programme, from 102 to 85 applicants. Regarding the applicants who chose this study programme as their first priority, there is clear decreasing in numbers from 44 to 15, whereas the number of admitted students remains stable from 8 to 10. This shows that the study programme is attractive for highly motivated students and an action plan to increase the programme visibility should be prepared.

The programme is available for full-time studies. The schedule for both classes and examinations is rational. Classes start in the afternoon since most of the students are already employed. Drop-out rates of students are stable and acceptable with retention rates from 60% to 78% during the period 2010-2015.

The students have the opportunity to participate in Young Scientist Conference "Science – Future of Lithuania" which is hosted by VGTU. The final thesis average mark prepared by full-time students is 8 out of 10.

Student mobility is encouraged by VGTU International Relations Office. From 2010 to 2015 only 7 students went abroad by Erasmus+ mobility programme. Students claimed that they are getting regular information about Erasmus mobility from University administration, but lack of time and concerns losing their position in company are the main reasons why Erasmus mobility figures remain so low. The Review Panel however noticed a very large consensus of the need and relevance of international exchanges and recommends urgently analysing the current barriers, proposing and implementing appropriate solutions.

The students have good access to several sports, health and cultural facilities. There is an active VGTU Students Association which organises various events and activities and represents the students inside and outside of university. Accommodation is provided to non-resident students. VGTU Carriers and Integration Office provides individual and group consultations for students about career opportunities, including during Career days. Multiple scholarships are available for students based on study, merit or social circumstances. Student loans are subsidised by state.

The assessment system is based on a 10 points grading system. It is very clear and publicly available. It could be improved by elucidating the grade significance consistently with the learning outcomes. Students can receive informal feedback about their grades and an appeal procedure is available. In order to encourage Erasmus mobility, the University defined a clear relationship between ECTS and University grading systems. The final grade is a weighted result of exam, course project, course work, integrated project, report and final project marks.

Social partners reported good collaboration with the Department of Urban Engineering. It could however be strengthened by developing placement opportunities.

## ***2.6. Programme management***

The master in Civil Engineering (Urban Planning and Engineering) is run by VGTU Department of Urban Development (Faculty of Environmental Engineering). The programme is managed by a study programme committee with student and social partner representatives. Considering the collaboration with other departments, it is recommended to extend the study programme committee to representatives from these departments. It is also recommended to better involve the teaching staff in the management of the programme and quality processes. Further approval by Faculty study committee, Faculty and University Council is required for the changes to be implemented, which is usual.

The Review Team has noticed many closely related civil engineering programmes and questions whether or not it is necessary. The Review Team observed much confusion about the specificity of each programme among the stakeholders (students, graduates and social partners). The Review Team recommends that VGTU examines the more efficient use of resources.

VGTU has implemented an information system “Alma Informatika” to collect all data related to the study programmes, but there is still a need to further develop the database to include information from graduates (first employment, surveys) and social partners.

Since 2007, an automated student surveying system has been successfully operating in the university information system. Two student surveys on the course units are organised

annually: after each term (winter and spring) exam sessions. The survey results reveal the students have a very high level of satisfaction about the courses and teachers. However, the low rate of responses requires further actions to foster student participation.

The internal quality assurance system of the university is based on European Standards and Guidelines for Quality Assurance in Higher Education. VGTU has implemented consistent procedures regarding programme management, students' assessment, staff training, study resources, career services, and students' participation. The Review Team is acknowledging such procedures and encourages VGTU to continuously improve their implementation and quality.

The main responsibility for the programme quality assurance belongs to the study programme committee and the faculty study committee. The Review Team acknowledges that internal quality measures have been implemented but their effectiveness should be better substantiated by evidence in the self-evaluation report. Moreover, the Review Team recommends paying a better attention on its quality as it currently contains many mistakes or misrepresentations.

The master in Civil Engineering (Urban Planning and Engineering) has been accredited by SKVC for 6 years in 2011 but VGTU has requested to anticipate the external review process to synchronise all civil engineering programme accreditation. The Review Panel regrets that the recommendations have not been properly analysed and only a few improvements have been implemented. The Review Panel recommends further to systematically collect information and data on the programme and review it periodically by focusing more on feedback and developing and implementing a coherent plan of actions. Finally, a better attention should be paid to communicating the changes to the stakeholders, particularly if they have been surveyed.

### **III. RECOMMENDATIONS**

1. In terms of programme management, the Review Panel recommends to systematically collect information and data on the programme and review it periodically within the study programme committee involving all the stakeholders including the teaching staff.
2. In the same regard, the Review Panel recommends to pay a better attention the recommendations of the accreditation report and to design a subsequent action plan.
3. The Review Team recommends that VGTU examines the more efficient use of resources. The Review Team questions whether or not it is necessary to have so many closely related separate civil engineering programmes in VGTU.
4. Whereas the learning outcomes are now available, the Review Panel noticed that they are not yet playing a central role in the study process and recommends developing a systematic formal way to periodically reviewing them involving all the stakeholders (students, graduates, social partners and teaching staff).
5. In this regard, the Review Panel recommends developing training and workshops for the Teaching staff in order to enhance the coherence between learning outcomes, methods and assessment.
6. Regarding the curriculum design, the Review Panel recommends to deepen multidisciplinary aspects related to the city contemporary challenges and to further develop the digital modelling aspects.
7. The Review Panel appreciated the large use of the learning management system Moodle but recommends considering further its possibilities and other internet tools, beyond the basic information transfer.
8. In terms of internationalisation, the Review Panel noticed a very large consensus of the need and relevance of international students' exchanges offered by the Erasmus+ programme but their number remains low. It is recommended to urgently analysing the current barriers, proposing and implementing appropriate solutions.
9. In this regard, the Review Panel would like to repeat the recommendation to improve the students' level in English language by offering courses, learning activities, study material and assigning coursework in English.
10. When examining the final theses, the Review Panel noticed major deficiencies in citations to the literature and recommends strengthening urgently expectations in this regard.
11. Regarding the number of students, the Review Panel recommends to intensify the efforts to increase the visibility of the programme involving all the stakeholders.



12. Considering the large proportion of students combining their studies with a job, the Review Panel recommends making full usage of ECTS opportunities in terms of crediting work experience or club association projects.
13. In terms of research, the Review Panel recommends better engaging the Faculty members and the students in research projects, particularly international to foster exchange of best practices.

#### **IV. SUMMARY**

This two year full-time (three year part-time) programme leading to a Master of Urban Planning and Engineering is consistent with the aims and learning outcomes and with the type and level of studies and the level of offered qualifications. The curriculum design meets the legal requirements and the study subjects and/or modules are spread evenly. The content of the modules is generally appropriate for the intended learning outcomes. The staff is well qualified to deliver the programme and staff –student ratio is exceptionally good. The staff is properly engaged in research, professional bodies and self-continuous development, though not always evenly. The facilities in terms of classrooms, libraries, reading rooms, computer rooms are very appropriate. The study process and student assessment are generally adequate. The Master of Urban Planning and Engineering is supervised by VGTU Department of Urban Development (Faculty of Environmental Engineering). It is managed by a study programme committee.

However, the Review Team has identified major deficiencies in terms of programme management where the systematic review and upgrade is not yet properly implemented or supported by action plans. The need to run many closely related programmes in civil engineering by VGTU has also been questioned. The Review Team further suggested other possible improvements. A better attention should be given to the implementation and review of the learning outcomes by fostering a collaborative approach with all stakeholders and offering appropriate training for the staff. The internationalisation should be extended, starting by offering learning opportunities to improve the English level of the students, fostering Erasmus exchange and enlarge the staff involvement in international projects. Training the students to searching and citing the international literature must be improved. Further actions should be taken to make the programme more visible. Safety conditions in the laboratories require a better attention.

## V. GENERAL ASSESSMENT

The study programme *Urban planning and engineering* (state code – 621H27001) 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	3
3.	Teaching staff	3
4.	Facilities and learning resources	4
5.	Study process and students' performance assessment	3
6.	Programme management	2
	<b>Total:</b>	<b>18</b>

\*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. Philippe Bouillard (team leader)

Grupės nariai:  
Team members:

Prof. Alfred Strauss

Prof. Tõnu Meidla

Prof. Juan Martinez

Dr. Mindaugas Gikys

Mr. Simonas Bulota

&lt;...&gt;

**V. APIBENDRINAMASIS ĮVERTINIMAS**

Vilniaus Gedimino technikos universiteto studijų programa *Miestų planavimas ir inžinerija* (valstybinis kodas – 621H27001) vertinama teigiamai.

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

\* 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)

&lt;...&gt;

**IV. SANTRAUKA**

Ši dvejus metus dėstoma nuolatinių studijų (trejus metus – iššestinių studijų) programa, kurią baigus suteikiamas miestų planavimo ir inžinerijos magistro laipsnis, atitinka tikslus ir studijų rezultatus, studijų tipą, lygį ir suteikiamos kvalifikacijos lygį. Programos sandara tenkina teisinius reikalavimus, o studijų dalykai ir (ar) moduliai paskirstyti tolygiai. Modulių turinys atitinka numatomus studijų rezultatus. Personalas yra kvalifikuotas programai vykdyti, o studentų bei personalo santykis yra išskirtinai geras. Personalas tinkamai vykdo mokslinius tyrimus, dalyvauja profesinių organizacijų veikloje ir nuolat tobulinasi, nors ne visada tolygiai. Auditorijos, bibliotekos, skaityklos ir kompiuterių klasės yra itin tinkamos studijoms. Studijų procesas ir studentų vertinimas yra tinkami. Miestų planavimo ir inžinerijos magistro studijų programą prižiūri VGTU Miestų statybos katedra (Aplinkos inžinerijos fakultetas). Jai vadovauja studijų programos komitetas.

Vertinimo grupė nustatė pagrindinius programos vadybos trūkumus. Kol kas nėra tinkamai įgyvendinama sisteminė pertvarka ir programa nėra atnaujinama, šiems veiksams įgyvendinti taip pat nesudaryti veiksnių planai. Taip pat keliamas klausimas dėl poreikio VGTU

vykdyti daug labai panašių civilinės inžinerijos programų. Vertinimo grupė pasiūlė įgyvendinti kitus galimus patobulinimus. Bendradarbiaujant su visais socialiniais dalininkais daugiau dėmesio reikėtų skirti studijų rezultatų įgyvendinimui ir vertinimui, o personalui suteikti galimybę dalyvauti atitinkamuose mokymuose. Internacionalizaciją reikėtų plėsti suteikiant mokymosi galimybes, gerinant studentų anglų kalbos žinias, įgyvendinant „Erasmus“ mainų programas ir skatinant darbuotojus aktyviau dalyvauti tarptautiniuose projektuose. Reikėtų labiau mokyti studentus, kaip ieškoti užsienio literatūros ir ją cituoti. Reikėtų imtis veiksmų, kad programa būtų labiau viešinama.

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### **III. REKOMENDACIJOS**

1. Kalbant apie programos vadybą, vertinimo grupė rekomenduoja sistemiškai rinkti informaciją ir duomenis apie programą, ją periodiškai peržiūrėti studijų programos komitete dalyvaujant visiems socialiniams dalininkams, įskaitant ir dėstantįjį personalą.
2. Vertinimo grupė taip pat rekomenduoja daugiau dėmesio skirti akreditavimo išvadose pateiktoms rekomendacijoms ir atsižvelgiant į jas sudaryti veiksmų planą.
3. Vertinimo grupė VGTU rekomenduoja išanalizuoti efektyvesnius išteklių naudojimo būdus. Ekspertams kyla klausimas, ar VGTU būtina vykdyti tiek daug artimai susijusių, bet atskirų civilinės inžinerijos studijų programų.
4. Nepaisant to, kad studijų rezultatai aprašyti, vertinimo grupė pastebėjo, kad jie kol kas studijų procese nevaidina pagrindinio vaidmens, ir rekomenduoja sukurti oficialią sistemą, kaip juos reguliariai peržiūrėti kartu su visais socialiniais dalininkais (studentais, absolventais, socialiniais partneriais ir dėstančiuoju personalu).
5. Šiuo tikslu vertinimo grupė rekomenduoja rengti mokymo kursus ir seminarus dėstančiajam personalui tam, kad studijų rezultatai būtų labiau susiję su metodais ir vertinimu.
6. Kalbant apie programos sandarą, vertinimo grupė rekomenduoja sustiprinti daugiadisciplinius aspektus, susijusius su šiuolaikiniais miestams kylančiais iššūkiais, ir toliau vystyti skaitmeninio modeliavimo aspektus.
7. Vertinimo grupė teigiamai įvertino tai, jog plačiai naudojama mokymosi vadybos sistema „Moodle“, tačiau rekomenduoja toliau plėsti jos galimybes bei naudoti ją ne tik informacijai perduoti, bet išnaudoti ir kitas jos teikiamas internetines priemones.
8. Nagrinėdama internacionalizacijos klausimą vertinimo grupė pastebėjo, kad siūlomos „Erasmus+“ mainų programos atitinka studentų poreikius, tačiau jose dalyvauja nedaug studentų. Rekomenduojama išanalizuoti esamas kliūtis ir pasiūlyti bei įgyvendinti atitinkamus sprendimus.
9. Vertinimo grupė norėtų pakartotinai rekomenduoti gerinti studentų anglų kalbos žinias ir organizuoti jiems kursus, mokymosi užsiėmimus, suteikti mokomąją medžiagą ir užduoti rašyti kursinius darbus anglų kalba.
10. Nagrinėdama baigiamuosius darbus vertinimo grupė pastebėjo, jog yra trūkumų cituojant literatūros šaltinius, ir rekomenduoja didinti lūkesčius šioje srityje.
11. Dėl sumažėjusio studentų skaičiaus vertinimo grupė rekomenduoja kartu su visais socialiniais dalininkais didinti pastangas, kad programa būtų labiau viešinama.

12. Atsižvelgdama į tai, kad didelė dalis studentų derina studijas ir darbą, vertinimo grupė rekomenduoja pasinaudoti ECTS galimybėmis suteikiant kreditus už darbinę patirtį ar dalyvavimą klubų asociacijose.
13. Įvertinusi mokslinius tyrimus vertinimo grupė rekomenduoja į mokslinių tyrimų projektus labiau įtraukti fakulteto narius ir studentus, ypač studentus iš užsienio, kad būtų perimta geroji praktika.

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