



Reģ.Nr.9000068977, Krišsalas iela 6A, Rīga, LV-1048, Latvija
Tālr.:67089999; Fakss:67089710, e-pasts:rtu@rtu.lv, www.rtu.lvwww.rtu.lv

Study programme "Civil Engineering"

Main attributes

Title	Civil Engineering
Identification code	BBB0
Education classification code	43582
Level and type	Academic Bachelor Study
Higher education study field	Architecture and Civil Engineering
Head of the study field	Uģis Bratuškins
Deputy head of the study field	Juris Smirnovs
Department responsible	Faculty of Civil Engineering
Head of the study programme	Baiba Gaujēna
Professional classification code	
The type of study programme	Full time
Language	English
Accreditation	16.11.2022 - 17.11.2028; Accreditation certificate No 2022/31-A
Volume (credit points)	120.0
Duration of studies (years)	Full time studies - 3,0
Degree or/and qualification to be obtained	Bachelor degree of engineering science in construction and civil engineering / –
Qualification level to be obtained	The 6th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Secondary education

Description

Abstract	The study programme has been developed in line with RTU Strategy and requirements of the study field “Architecture and Civil Engineering”. Students develop the envisioned skills and competences under guidance of academic and research personnel with European qualifications, who in their daily work render expert services at the national and international level, as well as highly qualified academic staff with many years of professional experience. The study programme facilitates the development of the overall education export potential; it is aimed at promoting interest in education in the field of civil engineering. Innovative teaching and learning methods are employed in study programme implementation – special focus is made on the development of practical skills and active use of modern technologies. The language of instruction is English.
Aim	The aim of the study programme is to educate and train highly qualified multi-discipline specialists with academic education, characterized by systemic thinking and awareness, who are able to keep up to date with technological development and successfully participate in launching new technologies, as well as to provide students with the body of knowledge, skills and competences in accordance with the requirements of the 6th level of the Latvian Qualifications Framework.
Tasks	The tasks of the study programme: - to ensure competitive higher academic education corresponding to the international standards, to prepare students for practical work, to develop research skills of the students and promote their practical application; - to develop student ability to adapt technologies and systems developed abroad for the local conditions; - to develop student knowledge and advance their professional skills and competencies within the study programme, so that they can demonstrate relevant academic results and reach learning outcomes in each study year and integrate them in research; - to develop student ability to implement innovative projects aimed at ensuring sustainable construction and reduction of environmental pollution; - to provide students with comprehensive knowledge in civil engineering, to develop student professional skills and develop their competence in accordance with the labour market demands; - to develop student ability to recognize problems, set and reach aims for their solution, suggesting practical solutions to specific problems within study courses and graduation papers; - to promote cooperation among students and academic staff in the process of development of research papers, adopting best practices in the practical implementation of the obtained results at industry enterprises, as well as to ensure publication of the research results; - in the course of studies, to develop student intelligence, to encourage their personal fulfilment, to promote the application of their intellectual abilities in the study process and further in their professional activities; - to motivate students and alumni to continue studies at post-graduate study programmes, to promote life-long learning, as well as academic and research excellence.

Learning outcomes	<p>Graduates of the study programme:</p> <ul style="list-style-type: none"> - able to apply the acquired theoretical and practical knowledge in their work in the construction industry; - able to perform their work, in compliance with the requirements of the binding, industry-specific, system-, process-, and product-related norms and regulations and standards; - able to understand in detail and demonstrate the knowledge of diverse specific facts, principles, processes and concepts in standard and non-standard situations in definite academic or professional fields; - able to demonstrate knowledge of technologies and methods for performing study and work tasks; - able to plan and organize work using various methods, technologies, tools, equipment and materials in performing the tasks; - able to find, evaluate and creatively use the information for completion of the study and professional tasks and problem solving; - able to cooperate, plan and complete study or work tasks in their professional field individually, in a team or managing the work of a team.
Final/state examination procedure, assessment	<p>The final assessment is done evaluating the Bachelor Paper that contains analytical research with the elements of scientific research work in the sub-fields and sub-disciplines of civil engineering on the theme individually assigned to the student. Research results are based on the analysis of research and technical literature.</p> <p>The final grade for the Bachelor Paper is calculated considering:</p> <ol style="list-style-type: none"> 1. Individual assessment of the Bachelor Paper by the members of the Bachelor Paper Defense Committee regarding paper contents, topicality, and presentation; 2. Reviewer's assessment of the Bachelor Paper; 3. Assessment of the Bachelor Paper development process during the semester. <p>The final grade for the Bachelor Paper is calculated according to the following formula: $A = 0.6 \times (\text{sum } A_i/i) + 0.25 \times A_r + 0.15 \times A_p$ where A – final assessment of the Bachelor Paper in grades; A_i – individual assessment of the Bachelor Paper by the members of the Bachelor Paper Defense Committee in grades; i – number of members of the Bachelor Paper Defense Committee; A_r – assessment of the Bachelor Paper by the reviewer in grades; A_p – assessment of the Bachelor Paper development process during the semester.</p>
Description of the future employment	<p>Graduates of the study programme may use the cross-disciplinary knowledge in civil engineering they have acquired working in construction and related industries, they will be able to integrate into the construction enterprises, work at state institutions on the development and introduction of construction regulations, at the level of municipalities, they will be able to participate in the development of the construction industry. Graduates of the study programme will be also able to conduct research in civil engineering, as well as develop and implement construction projects.</p>
Special enrollment requirements	<p>English language proficiency equivalent to at least CEFR B2 level.</p>
Opportunity to continue studies	<p>The graduates of the study programme have the opportunity to continue studies at the master study programmes.</p>

Courses

No	Code	Name	Credit points
A		Compulsory Study Courses	85.0
A.1		General Education Study Courses	15.0
1	DDM101	Mathematics	9.0
2	IDA700	Basics of Labour Protection	1.0
3	ICA301	Civil Defence	1.0
4	SDD701	Innovative Product Development and Entrepreneurship	4.0
A.2		Field-Specific Theoretical Basic and IT Study Courses	32.0
1	MFB105	Physics	6.0
2	BTG704	Introduction to Civil Engineering Drawing and Design	4.0
3	BMT713	Building Materials, Properties and Application	6.0
4	BBM716	Structural Analysis	8.0
5	BKA306	The Finite Element Method (Introduction)	2.0
6	BBK708	Building Structures	6.0
A.3		Field-Specific Professional Study Courses	36.0
1	BQE725	Practical Geodesy	6.0
2	BRC702	Basic Course of Architectural Design	6.0
3	BBR750	Construction Methods and Technology	6.0
4	BRC303	Basic Course of Geotechnics	4.0
5	BSG330	Heating, Ventilation and air Conditioning	2.0
6	BSG361	Heat Transfer in Building Constructions	4.0
7	BMT410	Maintenance of Buildings	2.0
8	BTB729	Roads and Bridges	4.0
9	BÜK325	Water Supply and Sewerage	2.0
10	BÜK313	Fluid Mechanics	4.0
B		Compulsory Elective Study Courses	21.0
B.1		Field-Specific Study Courses	16.0
1	BBR443	Technology of Building Repair Works	2.0
2	BTG712	Designing with 3D CAD and BIM	4.0
3	BMT403	Reinforcement of Structures	2.0
4	BMT454	Estimation of Buildings	2.0
5	BMT402	Diagnostics of Buildings	4.0
6	IBO410	Marketing in Building Construction	2.0
7	IBO407	Management in Building Products Manufacturing	2.0
B.2		Humanities and Social Sciences Study Courses	2.0
1	HSP377	General Sociology	2.0
2	HSP375	Sociology of Management	2.0
B.6		Languages	3.0
1	VSL711	Latvian for Foreign Students	1.0
2	BBR752	Technical English for Civil Engineering	2.0
C		Free Elective Study Courses	4.0
E		Final Examination	10.0
1	BBK001	Bachelor Thesis	10.0