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Study programme "Civil Engineering"

Main attributes

Title	Civil Engineering
Identification code	BGB0
Education classification code	47582
Level and type	Professional Master 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	46582
The type of study programme	Full time
Language	Latvian, English
Accreditation	16.11.2022 - 17.11.2028; Accreditation certificate No 2022/31-A
Variant 1	
Volume (credit points)	40.0
Duration of studies (years)	Full time studies - 1,0
Degree or/and qualification to be obtained	Professional master degree in civil engineering / –
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF)
Programme prerequisites	Professional bachelor degree in civil engineering and professional qualification of a civil engineer, or comparable education
Variant 2	
Volume (credit points)	100.0
Duration of studies (years)	Full time studies - 2,5
Degree or/and qualification to be obtained	Professional master degree in civil engineering / civil engineer
Qualification level to be obtained	The 7th level of European Qualifications Framework (EQF) and Latvian Qualifications Framework (LQF); the 7th level of professional qualification
Programme prerequisites	Bachelor degree of engineering science in civil engineering or comparable education

Description

Abstract	The study programme provides for the acquisition of compulsory study courses corresponding to the profile, compulsory optional study courses, as well as pedagogy and psychology study courses. The duration of the studies is 1 year and the volume of the study programme is 40 CP. (including 6 CP allocated for practice). By fulfilling all the requirements of the study program, the student obtains a professional master's degree in Civil Engineering.
Aim	The aim of the study programme is to provide in-depth knowledge in the construction sub-sector of the civil engineering sector, to prepare students for further studies in the doctoral degree, for university teaching work or for practical work, as well as to provide the highest level 2 professional education in the civil engineering to applicants with an engineering academic bachelor's degree in construction science, and to prepare engineers for permanent work.
Tasks	The tasks of the study programme: - to develop research work and technical literature analysis skills in the construction industry; - to lead students' ability to use theoretical knowledge for formulating and solving specific tasks in the construction industry; - to develop students' ability to organize and perform pedagogical work.
Learning outcomes	Graduates of the study programme: - are able to demonstrate a comprehensive knowledge of facts, theories and patterns necessary for personal growth and development, civic participation, social integration and continuing education; - are able to understand in detail and demonstrate knowledge of a wide variety of specific facts, principles, processes and concepts in a given field of study or professional activity; - are familiar with technologies and methods for carrying out learning tasks or work assignments; - are able to plan and organise work, use a variety of methods, technologies, devices, tools and materials to carry out tasks; - are able to cooperate, plan and carry out learning or work tasks in the profession individually, in a team or by leading a team. Studies provide knowledge that creates a high degree of culture and intelligence, enabling to engage in social and professional activities, to have contact with academic and professional circles in Latvia and abroad.

Final/state examination procedure, assessment	<p>The final thesis of the master's studies requires specific research in the field of construction. As far as possible, in the master's thesis, the student continues the topic started in the bachelor's thesis. Students with an academic bachelor's degree additionally develop an engineering project in which a variant of the possible implementation of the researched question is developed.</p> <p>Before defending the master's thesis, these are evaluated by reviewers who are approved by the director of the relevant institute.</p> <p>Master's theses are defended at an open meeting of the State Examination Commission (SEC) appointed by RTU Rector, which also includes representatives of professional associations and companies in the construction industry. The SEC collegially evaluates students' knowledge and skills on a 10-point scale.</p>
Description of the future employment	<p>As a result of the studies, the student acquires the necessary knowledge to be able to start a permanent job in the construction industry or to perform pedagogical work, training young specialists in the construction industry. The realization variant of the study programme (100 KP) ensures the acquisition of the qualification of a civil engineer.</p>
Special enrollment requirements	<p>English language proficiency equivalent to at least CEFR B2 level.</p>
Opportunity to continue studies	<p>Studies at doctoral level study programmes.</p>

Courses

No	Code	Name	C.p. [1]	C.p. [2]
A		Compulsory Study Courses	8.0	23.0
1	BBK580	Investigation and Testing of Structural Elements of Buildings	2.0	2.0
2	BKA516	The Finite Element Method (General Course)	4.0	4.0
3	BMT403	Reinforcement of Structures	2.0	2.0
4	BBK760	Timber Structures		3.0
5	BBK558	Steel Structures		2.0
6	BBK454	Reinforced Concrete Structures (general course)		3.0
7	BBR223	Construction Technology and Safety		4.0
8	BBR344	Construction Technology and Safety (study project)		2.0
9	IDA700	Basics of Labour Protection		1.0
B		Compulsory Elective Study Courses	4.0	17.0
B1		Field-Specific Study Courses	4.0	17.0
		<i>Study courses for all study directions</i>	4.0	4.0
1	BBM511	Rheology of Structural Elements	2.0	2.0
2	BBK559	Optimization in Engineering Design	2.0	2.0
3	BBK550	Metrology, Investigation and Testing of Structures	2.0	2.0
4	BMT405	Management of Quality in Construction	2.0	2.0
5	BMT322	Building Protection	2.0	2.0
6	BBR443	Technology of Building Repair Works	2.0	2.0
7	BRC470	Fundamentals of Research and Patents	2.0	2.0
8	BTG343	Interactive Computer Graphics	2.0	2.0
9	BRC409	Engineering Geology of Latvia	2.0	2.0
10	BRC582	Special Course of Geotechnical Engineering	2.0	2.0
11	BKA709	Dynamics of Civil Structures	2.0	2.0
12	BKA710	Polymer Composite Materials in Civil Engineering	2.0	2.0
13	BKA711	Computer Aided Design of Optimal Building Structures	2.0	2.0
		<i>Construction of civil buildings</i>		13.0
1	BRC494	Reconstruction and Restoration of Buildings		4.0
2	BRC423	Practical Civil Engineering Physics		2.0
3	BRC428	Fundamentals of Building Acoustics		2.0
4	BBR342	Building Machines (special course)		2.0
5	BBR440	Assembling Technology of Sanitary Equipment		2.0
6	BKA403	CAD in Civil Engineering (specific topics)		4.0
7	BRC422	Supplementary Course of Architectural Designe		4.0
8	BBR211	Individual Building		3.0
9	BMT415	Diagnostics of Buildings		3.0
		<i>Building constructions and reconstruction</i>		13.0
1	BBK457	Steel Structures. Special Course		2.0
2	BBK560	Timber and Plastic Structures (special course)		3.0
3	BBK455	Reinforced Concrete Structures (special course)		3.0
4	BKA403	CAD in Civil Engineering (specific topics)		4.0
5	BTG444	Computer Aided Design		2.0
6	BBK204	Metrology, Investigation and Testing of Structures		2.0
7	BTG343	Interactive Computer Graphics		2.0
		<i>Contractor</i>		13.0
1	BMT407	Investigation Methods of Materials		3.0
2	BMT409	Modern Building Materials		3.0
3	BMT410	Maintenance of Buildings		2.0
4	BMT454	Estimation of Buildings		2.0
5	IBO434	Construction Pricing		3.0
6	IBO491	Economics of Building Construction		3.0
7	IBO410	Marketing in Building Construction		2.0
8	IBO407	Management in Building Products Manufacturing		2.0
B5		Pedagogical and Psychological Sciences Study Courses	2.0	2.0
1	HSP446	Pedagogy	2.0	2.0
2	HSP484	Psychology	2.0	2.0
C		Free Elective Study Courses	2.0	2.0
D		Practical Placement	6.0	32.0

1	BMT714	Practical Placement	6.0	
2	BKA010	Practical Placement	6.0	
3	BKA708	Practical Placement		32.0
4	BBK709	Practical Placement		32.0
5	BMT715	Practical Placement		32.0
E		Final Examination	20.0	26.0
1	BRC002	Master Thesis	20.0	
2	BBK002	Master Thesis	20.0	
3	BMT002	Master Thesis	20.0	
4	BBR002	Master Thesis	20.0	
5	BKA707	Master Thesis with Engineering Design Project		26.0
6	BBK705	Master Thesis with Engineering Design Project		26.0
7	BMT716	Master Thesis with Engineering Design Project		26.0
8	BRC706	Master Thesis Including Engineering Design Project		26.0

K.p.[] kredītpunkti studiju programmas variantā*