

## SECOND DEGREE full-time STUDY PLAN (M.Sc. Eng.)

field of study: **CIVIL ENGINEERING**

*academic profile*

approved by the Faculty Council on 15/05/2019

(valid for students who started their studies in the academic year 2019/2020)

### COMMON COURSES

SEMESTER I (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	
1	Foreign language	EN-B2S11001		2					2
2	Elective course from the field of project management (HES)	EN-HESS203A/B	2	1					3
3	Monolithic construction	EN-B2S11002	1				1		2
4	Mechanics of engineering structures (E)	EN-B2S11003	2				2		5
5	Prestressed concrete structures (E)	EN-B2S11004	2				2		5
6	Complex metal structures	EN-B2S11005	1				2		4
7	Geoenvironment (E)	EN-B2S11006	1			1	1		4
8	Road infrastructure	EN-B2S11007	1				1		2
9	Applied mathematics	EN-B2S11008	2	2					3
<b>TOTAL</b>			12	5	0	1	9	0	30

### COMMON COURSES

SEMESTER II (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	
1	Work experience placement	EN-B2S21009							2
2	Elective course (HES)	EN-HESS202A/B	2						2
<b>TOTAL</b>			2	0	0	0	0	0	4

### ELECTIVE COURSES

#### Specialty 1 - BUILDING AND ENGINEERING STRUCTURES

SEMESTER II (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	
3	Urban structures (E)	EN-B2S21110	2				2		4
4	Theory of elasticity and plasticity	EN-B2S21111	2	2					4
5	Concrete engineering structures(E)	EN-B2S21112	2			1	2		6
6	Special metal structures with BIM elements (E)	EN-B2S21113	2			1	2		6
7	Special foundations	EN-B2S21134	1				1		2
8	Underground structures	EN-B2S21514	2				2		4
<b>TOTAL</b>			11	2	0	2	9	0	26

#### Specialty 2 - CONSTRUCTION OF ROAD INFRASTRUCTURE

SEMESTER II (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	
3	Basis of theory of elasticity and plasticity	EN-B2S21215	1						1
4	Underground structures	EN-B2S21514	2				2		4
5	Traffic engineering (E)	EN-B2S21216	2				2		5
6	Road pavement structures	EN-B2S21217	1				2		3
7	Roads design (E)	EN-B2S21218	1				2		3
8	Road maintenance and management systems	EN-B2S21219	2				1		3
9	Organization and economics of road works	EN-B2S21239	1			2			3
10	Materials and pavement technology (E)	EN-B2S21220	2		2				4
<b>TOTAL</b>			12	0	2	2	9	0	26

#### Specialty 3 - CONSTRUCTION AND MAINTENANCE OF BUILDING OBJECTS

SEMESTER II (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	
3	Protection of building objects against moisture and corrosion	EN-B2S21621	2		2				4
4	Organization of complex investment and construction processes	EN-B2S21322	2					2	5
5	Modern construction technologies	EN-B2S21323	2					2	4
6	Advanced technologies of building materials and prefabricated elements (E)	EN-B2S21324	2		2		2		6
7	Selected issues in construction economics	EN-B2S21340	1	1		2			4
8	Maintenance and assessment of the technical condition of buildings	EN-B2S21341	1	2					3
<b>TOTAL</b>			10	3	4	2	2	4	26

### COMMON COURSES

SEMESTER III (15 weeks)									
No.	Course	Course code	Hours per week						ECTS points
			L	C	LC	SW	P	S	

No.	Course	Course code	L	C	LC	SW	P	S	semester	ECTS points
1	Diploma seminar	EN-B2S31030						2	30	2
2	MSc thesis	EN-B2S31031							0	16
<b>TOTAL</b>			0	0	0	0	0	2	30	18

## ELECTIVE COURSES

### Specialty 1 - BUILDING AND ENGINEERING STRUCTURES

SEMESTER III (15 weeks)										
No.	Course	Course code	Hours per week						Hours per semester	ECTS points
			L	C	LC	SW	P	S		
3	Modern methods of designing light weight steel structures	EN-B2S31132	1				1		30	2
4	Bridges	EN-B2S31533	1				2		45	3
5	Numerical methods	EN-B2S31135	1			2			45	3
6	Introduction to industrial buildings	EN-B2S31136	2				2		60	4
<b>TOTAL</b>			5	0	0	2	5	0	180	12

### Specialty 2 - CONSTRUCTION OF ROAD INFRASTRUCTURE

SEMESTER III (15 weeks)										
No.	Course	Course code	Hours per week						Hours per semester	ECTS points
			L	C	LC	SW	P	S		
3	Bridges	EN-B2S31533	1				2		45	3
4	Road interchanges and intersections (E)	EN-B2S31237	2				2		60	4
5	Computer methods in traffic engineering with BIM elements	EN-B2S31238	2			2			60	5
<b>TOTAL</b>			5	0	0	2	4	0	165	12

### Specialty 3 - CONSTRUCTION AND MAINTENANCE OF BUILDING OBJECTS

SEMESTER III (15 weeks)										
No.	Course	Course code	Hours per week						Hours per semester	ECTS points
			L	C	LC	SW	P	S		
3	Efficiency of modernization investments (E)	EN-B2S31325	2			2			60	4
4	Computer aided design of complex building processes with BIM elements	EN-B2S31342	1			2			45	4
5	Thermal diagnostics of buildings and thermomodernization (E)	EN-B2S31643	2				2		60	4
<b>TOTAL</b>			5	0	0	4	2	0	165	12

Student is required to complete the work experience pleasant (EN-B2S21009) in 2 weeks, during the summer holiday

The total number of teaching hours is: **1005**