

ENDORSED:

Rector of EPU: Prof. Marin Marinov

**Educational Degree
„BACHELOR“**

Form of Training: *Full-time*
Term of Training: *4 Academic Years (8 Semesters)*

Professional Direction

5.7. Architecture, Civil Engineering and Surveying

ACADEMIC CURRICULUM

**SPECIALITY:
CIVIL ENGINEERING**

I. TIME SCHEDULE

Year	Auditoria Workload	Exams	Practical Training	Industrial/Field Placement	Practice	Work on Diploma Thesis	Vacations	Total (Number of Weeks)
I	30*	4	0	0	1**	-	18	52
II	30*	4	1*	2*	-	-	18	52
III	30*	4	0	-	1***	-	18	52
IV	23*	4	1*	0	-	8	11	46

* within 15 hours of a course in the semester

** within 36 hours of a course (a week), after finishing the summer exam sessions

*** within 4 weeks of a course (a month), after finishing the summer exam sessions

II. CURRICULUM

<p>ECTS code: (CE / GC)T No</p> <ul style="list-style-type: none"> • CE – „Civil Engineering“; • GC - General University Courses • T – type of degree: B - “Bachelor”, M - “Master”; • No – serial number of course; <p>Lectures (L), Seminar Exercises (SE), Lab Exercise (LE), Practical Training/Fieldwork (PT), Auditoria Workload (total) (AT), Self-Study (SS) per week ;</p> <p>Exam (EX), Continuous Assessment (CA); Project Work (PW), Course works (Cw)</p>
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GC1: European Values and Culture

GC2: Basics of Economics

GC3: Introduction to Informatics

GC4: Bulgarian

I SEMESTER

No	Course	Weekly Workload							Assessment				Code	ECTS
		L	SE	LE	PT	AT	SS	Total	E	CA	PW	Cw		
1	Introduction to Civil Engineering	1	0	0	0	1	1	2	0	0	0	-	CEB101	1
2	Mathematics I	3	0	3	0	6	9	15	1	0	0	-	CEB102	8
3	Building Chemistry	2	0	1	0	3	6	9	1	0	0	+	CEB103	5
4	European Values and Culture	2	0	0	0	2	4	6	0	1	0	-	GC1	3
5	Basics of Economics	2	1	0	0	3	4	7	0	1	0	+	GC2	4
6	Introduction to Informatics	2	0	3	0	5	5	10	1	0	0	+	GC3	6
7	Surveying	2	0	2	0	3	3	6	1	0	0	+	CEB104	3
Total		14	1	9	0	23	32	55	4	2	0	4		30

SEMESTER II

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	SS	Total	E	CA	PW			Cw
8	Mathematics II	3	0	3	0	6	6	12	1	0	0	-	CEB204	7
9	Theoretical Mechanics I	3	1	1	0	5	5	10	1	0	0	+	CEB205	6
10	Engineering Surveying	3	0	2	0	5	5	10	1	0	0	+	CEB206	6
11	Building Physics	2	0	2	0	4	5	9	1	0	0	+	CEB207	5
12	Descriptive Geometry and Engineering Graphics	2	2	0	0	4	3	7	0	1	0	+	CEB208	4
Total		13	3	8	0	24	24	48	4	1	0	4		28
10a	Practice of Engineering Surveying*	within 36 hours of a course after finishing the summer exam							-	1	0	-	CEB206a	2
Total									4	3	0	4		30

SEMESTER III

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw
13	Mathematics III	2	0	2	0	4	5	9	1	0	0	-	CEB309	5
14	Theoretical Mechanics II	2	1	1	0	4	5	9	1	0	0	+	CEB310	5
15	Strength of Materials I	2	1	1	0	4	5	9	1	0	0	+	CEB311	5
16	Building Materials	2	0	2	0	4	5	9	1	0	0	+	CEB312	5
17	Engineering Geology and Hydrogeology	2	0	1	1	4	5	9	0	1	0	+	CEB313	5
18	Computer-Aided Engineering	2	0	1	0	3	2	5	0	1	0	+	CEB314	3
19	Building Construction	2	0	0	0	2	2	4	0	1	0	-	CEB315	2
Total		14	2	8	1	25	29	54	4	3	0	5		30

SEMESTER IV

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw
20	Strength of Materials II	2	1	1	0	4	5	9	1	0	0	+	CEB416	5
21	Structural Materials	2	1	1	1	5	4	9	1	0	0	+	CEB417	5
22	Transportation Engineering	2	0	3	0	5	5	10	1	0	1	-	CEB418	6
23	Construction Equipment	2	1	1	1	5	5	10	1	0	0	+	CEB419	6
24	Architecture	2	0	2	0	4	3	7	0	1	1	-	CEB420	4
25	Computer Systems in Civil Engineering	2	0	2	0	4	3	7	0	1	0	+	CEB421	4
Total		12	3	10	2	27	25	52	4	2	2	4		30

SEMESTER V

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw
26	Statics of Structures I	2	1	1	0	4	6	10	1	0	0	+	CEB522	6
27	Soil Mechanics	3	1	2	0	6	7	13	1	0	0	+	CEB523	7
28	Construction Technology	3	0	3	0	6	4	10	1	0	1	-	CEB524	6
29	Fundamentals of Management	2	1	0	0	3	4	7	0	1	0	+	CEB525	4
30	Sustainable Development	2	0	0	0	2	2	4	0	1	0	-	CEB526	2
31	Health and Safety in Construction	2	0	0	0	2	2	4	0	1	0	-	CEB527	2

32	Elective Course - module I (one must be chosen)	2	0	0	0	2	2	4	0	1	0	-		2
Total		16	3	6	0	25	27	52	3	4	1	3		30

SEMESTER VI

No	Course	Weekly Workload						Assessment				Code	ECTS		
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw	
33	Statics of Structures II	2	1	1	0	4	5	9	1	0	0	+	CEB628	5	
34	Technology of Finishing Works	3	0	1	0	4	5	9	1	0	1	-	CEB629	5	
35	Timber and Plastic Structures	2	0	2	0	4	5	9	1	0	1	-	CEB630	5	
36	Foundation Engineering	2	0	3	0	5	5	10	1	0	1	-	CEB631	6	
37	Civil Engineering Business Plan	2	1	1	0	4	3	7	0	1	1	-	CEB632	4	
38	Elective Course – module II (one must be chosen)	2	0	0	0	2	2	4	0	1	0	-		2	
Total		13	2	8	0	23	25	48	4	2	4	1		27	
39	Practice of Construction Technology	within 4 weeks of a course , after finishing the summer exam sessions								1				CEB629a	3
Total									4	3	4	1		30	

SEMESTER VII

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw
40	Reinforced Concrete	3	0	2	0	5	5	10	1	0	1	-	CEB733	6
41	Metal Structures	3	0	3	0	6	6	12	1	0	1	-	CEB734	7
42	Installations in Buildings	3	1	2	1	7	7	14	1	0	1	-	CEB735	8
43	European Construction Law	2	1	0	0	3	2	5	0	1	0	-	CEB736	3
44	Project Management in Construction	2	1	1	0	4	3	7	0	1	1	-	CEB737	4
45	Elective course – module III (one must be chosen)	2	0	0	0	2	2	4	0	1	0	-		2
Total		15	3	8	1	27	25	52	3	3	4	0		30

SEMESTER VIII

No	Course	Weekly Workload						Assessment				Code	ECTS	
		L	SE	LE	PT	AT	Ss	Total	E	CA	PW			Cw
46	Reinforced Concrete Structures	3	0	3	0	6	8	14	1	0	1	-	CEB838	8
47	Elective Course- module IV (one must be chosen)	2	0	0	0	2	2	4	0	1	0	-		2
48	Elective Course I, II or III (one must be chosen)	2	0	0	0	2	1	3	0	1	0	-		2
49	Bachelor's Thesis	0	0	6	0	6	24	30	thesis defence				CEB839	18
Total		7	0	9	0	16	35	51	1	2	1	0		30

COMPULSORY ELECTIVE MODULES

Elective module 1

Course	Code
Philosophy	CEB528
Computer Graphics	CEB529
Building and Ecology	CEB530
Finite Element Method	CEB531
Theory of Elasticity and Plasticity	CEB532

Elective module 2

Course	Code
Durability of Buildings Materials	CEB633
Special Composite Materials	CEB634
Conformity Assessment of Building Materials and Structures	CEB645

Elective module 3

Course	Code
Energy Efficiency in Buildings	CEB738
High-performance Building Materials	CEB739
Reconstruction and Modernization of Buildings	CEB740

Elective module 4

Course	Code
General Concepts of Earthquake Resistant Design	CEB840
Static and Dynamic Analysis of Structures	CEB841
Identification of Buildings	CEB842
Masonry Structures	CEB843

OPTIONAL COURSES

Optional Course	Code
Bulgarian	GC4

Remarks:

- The curriculum's goal is to accumulate basic academic knowledge required for a master's degree. The following three Master's degree programmes were considered: „Renovation of Modernization of Buildings and Facilities“, „Seismic Engineering“ and „Façade Engineering“.
- Courses are structured in the following areas: Social, Economic and Legal Sciences; Mathematics and Physics; Computers in Construction; ; Theoretical and Structural Mechanics; Building Materials Science; Earth Sciences; Building Construction and Architecture; Building Structures and Construction Technology.
- The number of credits per semester is 30. They correspond to the weekly workload, the accomplishment of course projects and courseworks, and method of assessment.
- Elective courses aim at improving the general training of students, depending on their individual needs and wishes. The workload of these courses is 30 hours of lectures and 15 hours of self-study per semester. The control of these subjects is realized through continuous assessment.
- Student knowledge and skills are evaluated in accordance to a six-grade rating system: 6 – excellent; 5 – very good; 4 – good; 3 – satisfactory; 2 – fail. An exam or continuous assessment is considered successfully passed if the student has achieved a minimum result of 3 (satisfactory). The correlation between the Bulgarian evaluation system and ECTS grades is as following: A (5.50-6.00), B (4.50-5.50), C (3.50 -4.50), D (3.00-3.50), E (2.50-3.00), FX (2.25-2.50) и F (2.25- 2.00).

III. BASIC PARAMETERS OF THE CURRICULUM

Semester	Weekly Workload							Semester Workload				Assessment			
	L	SE	EL	PT	AT	Ss	Total	L	SE	EL	PT	E	CA	PW	Cw
I	14	1	9	0	23	32	55	210	15	135	0	4	2	0	4

II	13	3	8	0	24	24	48	195	45	120	36	4	3	0	4
III	14	2	8	1	25	29	54	210	30	120	15	4	3	0	5
IV	12	3	10	2	27	25	52	180	45	150	30	4	2	2	4
V	16	3	6	0	25	27	52	240	45	90	0	3	4	1	3
VI	13	2	8	0	23	25	48	195	30	120	160	4	3	4	1
VII	15	3	8	1	27	25	52	225	45	120	15	3	3	4	0
VIII	7	0	9	0	16	35	51	105	0	135	0	1	2	1	0
Total	104	17	66	4	190	222	412	1560	255	990	256	27	22	12	21

* after finishing the summer exam sessions

† Practice, is not included in the basic parameters of the curriculum

1. Term of study	4 years, 8 Semesters
2. Auditoria Workload	
2.1. Total	2850 hours
2.2 Lectures	1560 hours
2.3.Seminar Exercises	255 hours
2.4. Lab Exercises	990 hours
3. Total number of courses	51
3.1. Compulsory	45
3.2. Elective	5
3.3. Optional	1
4. Control	
4.1. Exams	27
4.2. Continuous Assessment	22
4.3. Project Work	12
4.4. Courseworks	21

Head of the Program:

Acad. eng. Yacho Ivanov, DSc