

TEHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST
 DOMAIN: CIVIL ENGINEERING AND BUILDING SERVICES
 SPECIALIZATION: BUILDING SERVICES
 FORM OF EDUCATION: DAY CLASSES
 CODE: U02.04.INS.07.*

Study programmes 2018-2022

Semester 1 – Codul: U02.04.INS.07.1

30 credits (14 weeks)

1st year 2018 - 2019

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Mathematical Analysis I	1.DF.DI.01.	2	2	-	-	3	7	5		E
02.	Linear Algebra, Analytical and Differential Geometry	1.DF.DI.02.	3	2	-	-	2	7	5		E
03.	Chemistry I	1.DF.DI.03.	2	-	2	-	3	7	5		E
04.	Physics I	1.DF.DI.04.	2	-	1	-	2	5	5		E
05.	Graphic Engineering	1.DF.DI.05.	2	1	-	-	1	4	3		E
06.	Technical Drawing and Infographics I	1.DF.DI.06.	-	2	-	-	1	3	2		C
07.	Computer programming I	1.DF.DI.07.	1	-	2	-	1	4	3		C
08.	Modern Languages I	1.DC.DI.08.	-	2	-	-	1	3	2		C
09.	Physical education and sports	1.DC.DI.09.	-	2	-	-	-	2	-		-
TOTAL			12	11	5	-	14	42	30		5E + 3C
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Physical education and sports	1.DC.FC.01.	-	1*	-	-	-	1	-		-
02.	Physics complements for engineers	1.DF.FC.02.	2	-	-	-	1	3	2		C
03.	Mathematics complements for engineers	1.DF.FC.03.	1	1	-	-	1	3	2		C
04.	Pedagogical education	1.DC.FC.04.	2	2	-	-	1	5	5		E
05.	Humanist culture and civilization	1.DC.FC.05.	2	-	-	-	1	3	2		C
TOTAL			7	4	-	-	4	15	11		1E + 3C

*) Hours that are not quantified semiannually, credits are granted, after verification, in semester 2.

Semester 2 - Codul: U02.04.INS.07.2.

30 credits (14 weeks + 2 weeks practice)

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Mathematical Analysis II	2.DF.DI.01.	2	2	-	-	2	6	5		E
02.	Physics II	2.DF.DI.02.	2	-	1	-	2	5	4		E
03.	Chemistry II	2.DF.DI.03.	2	-	1	-	1	4	3		E
04.	Mechanics	2.DD.DI.04.	3	2	-	-	2	7	4		E
05.	Computer programming II	2.DF.DI.05.	-	-	2	-	1	3	5		C
06.	Technical Drawing and Infographics II	2.DF.DI.06.	-	-	2	-	1	3	2		C
07.	Computer Aided Design I	2.DD.DI.07.	1	-	1	-	2	4	2		C
08.	Technology and Technical Assembly of Installations I	2.DD.DI.08.	2	-	1	-	1	4	2		C
09.	Modern Languages II	2.DC.DI.09.	-	2	-	-	0	2	1		C
10.	Physical Education and Sports*)	2.DC.DI.10.	-	2	-	-	-	2	2		A/R
11.	Domain practice I	2.DC.DI.11.	2 weeks. x 30 h/week = 60 ore						2		C
TOTAL			12	8	8	-	12	40	30		4E + 6C+1A/R
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Conditions	Verification form (E,C,P)
				S	L	P					

01.	Humanist culture and civilization	2.DC.FC.01.	2	-	-	-	1	3	2		C
02.	Mathematics complements for engineers	2.DF.FC.02.	1	1	-	-	1	3	2		C
03.	- Fundamentele pedagogiei Pedagogy - Fundaments of pedagogy	2.DC.FC.03.	2	1	-	1	1	5	5		E
TOTAL			5	2	-	1	3	11	9		1E+2C

For the transition from the first year to the second year it is necessary to obtain 35 credits.

Semester 3 – Codul: U02.04.INS.07.3.

30 credits (14 weeks)

year II 2020 - 2021

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Advanced Mathematics	3.DF.DI.01.	2	1	-	-	2	5	4		E
02.	Strength of Materials	3.DD.DI.02.	3	3	-	-	2	8	6		E
03.	Engineering Thermodynamics	3.DD.DI.03.	3	2	1	-	2	8	6		E
04.	Hydraulics I	3.DD.DI.04.	3	1	1	-	2	7	6		E
05.	Electrotechnics I	3.DD.DI.05.	3	1	2	-	2	8	6		E
06.	Foreign Languages III	3.DC.DI.06.	-	2	-	-	1	3	2		C
07.	Physical Education and Sport III*)	3.DC.DI.07.	-	1*	-	-	-	1	-		-
TOTAL			14	11	4	-	11	40	30		5E + 1C
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Physical Education and Sport III*)	3.DC.FC.01.	-	1*	-	-	-	1	-		-
02.	Pedagogy II - curriculum theory and methodology	3.DC.FC.02.	2	1	-	1	1	5	5		E
TOTAL			2	2	-	-	1	6	5		1E

*) Ore ce nu se cuantifică semestrial, creditele se acordă, după verificare, în semestrul 2.

Semester 4 – Codul: U02.04.INS.07.4.

30 credits (14 weeks + 2 weeks practice)

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Heat Transfer	4.DD.DI.01.	3	2	1	-	2	8	5		E
02.	Hydraulics II	4.DD.DI.02.	2	1	2	-	2	7	5		E
03.	Electrotechnics II	4.DD.DI.03.	2	1	2	-	2	7	5		E
04.	Construction	4.DD.DI.04.	2	-	-	2	1	5	2+2		E+P
05.	Optional discipline A: A1. Building Heat Transfer; A2. Building physics.	4.DD.DO.05.	2	-	1	-	2	5	3		C
06.	Architecture elements	4.DD.DI.06.	1	-	-	-	1	2	1		C
07.	Computer Aided Design II	4.DD.DI.07.	-	-	1	-	1	2	1		C
08.	Modern Languages IV	4.DC.DI.08.	-	2	-	-	0	2	1		C
09.	Physical Education and Sport*)	4.DC.DI.09.	-	2	-	-	-	2	2		A/R
10.	Domain practice II Specialized practice I	4.DD.DI.10.	1 săptăm. x 30 ore/sapt. = 30 ore						2		C
		4.DS.DI.10.	1 săptăm. x 30 ore/sapt. = 30 ore						+	1	
TOTAL			12	8	7	2	11	40	30		4E+5C+1P+1 A/R
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Specialty didactics	4.DC.FC.01.	2	1	-	1	1	5	5		E

For the passage from year II to year III it is obligatory to obtain 90 credits and to promote all the disciplines from year I

Semester 5 – Codul: U02.04.INS.07.5.

30 credits (14 weeks)

year III 2020 - 2021

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Hydraulic Machines	5.DD.DI.01.	2	-	2	-	2	6	5		E
02.	Electrical Machines	5.DD.DI.02.	2	-	2	-	2	6	5		E
03.	Plumbing Installations	5.DS.DI.03.	4	-	-	3	2	9	4+3		E + P
04.	Heating Installations I	5.DS.DI.04.	2	-	-	2	2	6	5		E
05.	Thermal Equipment	5.DD.DI.05.	3	-	-	2	2	7	3+2		E + P
06.	Optional discipline B: B1. Machinery Elements B2. Mechanical Processing	5.DD.DO.06.	1	-	1	-	1	3	2		C
07.	Environment protection	5.DC.DI.07.	2	-	-	-	1	3	1		C
TOTAL			16	-	5	7	12	40	30		5E+1C+2P
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Computer Aided Design III	5.DC.FC.01.	1	2	-	-	1	4	2		C
02.	Teaching practice	5.DC.FC.02.	2	1	-	-	1	4	2		C
TOTAL			3	3	-	-	2	8	4		2C

Semester 6 – Codul: U02.04.INS.07.6.

30 credits (14 weeks+ 2 weeks practice)

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											
01.	Heating Installations II	6.DS.DI.01.	2	-	1	2	2	7	3+3		E + P
02.	Ventilation and Air-conditioning Installations I	6.DS.DI.02.	2	1	-	-	2	5	4		E
03.	Electrical Installations I	6.DS.DI.03.	3	-	1	1	3	8	5		E
04.	Refrigeration Installations	6.DS.DI.04.	4	-	-	3	2	9	3+3		E + P
05.	District Water Systems	6.DS.DI.05.	2	-	1	-	1	4	2		C
06.	Optional discipline C: C1. Meteorology and climatology; C2. Quality assurance for installations.	6.DD.DO.06.	2	-	-	-	1	3	1		C
07.	Optional discipline D: D1. Energy Management of Industrial Processes D2. Water Management	6.DS.DO.07.	1	-	2	-	1	4	3		E
08.	Practice	6.DS.DI.08.	2 weeks x 30 h/week = 120 h						3		C
TOTAL			16	1	5	6	12	40	30		5E+3C+2P
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Classroom Management	6.DC.FC.01.	1	1	-	-	1	3	3		E
02.	Teaching practice	6.DC.FC.02.	-	-	-	3	-	3	2		C
03.	DPPD Graduate Exam level I		-	-	-	-	-	-	5		
TOTAL			1	1	-	-	1	6	10		1E+1C

In order to pass from year III to year IV it is obligatory to obtain 135 credits and to promote all the disciplines from year II.

Semester 7– Codul: U02.04.INS.07.7.

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
MANDATORY DISCIPLINES (OB)											

01.	Ventilation and Air-conditioning Installations II	7.DS.DI.01.	2	-	1	3	2	8	3+3		E + P
02.	Electrical Installations II	7.DS.DI.02.	2	-	-	3	3	8	3+3		E + P
03.	Thermal Sources and Networks	7.DS.DI.03.	2	-	-	3	3	8	3+3		E + P
04.	Building Automation I	7.DS.DI.04.	2	-	2	-	2	6	4		E
05.	Socio-humanist disciplines	7.DC.DI.05.	1	2	-	-	0	3	2		C
06.	Optional discipline E: E1. Industrial Thermal Processes and Equipment E2. Systems and Equipment for Sewage Water Depollution E3. Heat-pumps	7.DS.DO.06.	1	-	2	-	1	4	3		E
07.	Optional discipline F: F1. Renewable Energy Resources Utilization in Building Services Engineering F2. Industrial hydraulic installations F3. Systems and Equipment for Noise and Vibration Protection	7.DS.DO.07.	1	-	2	-	1	4	3		E
TOTAL			11	2	7	9	11	40	30		6E+3P+1C
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Modern languages IV	7.DC.FC.01.	-	2	-	-	2	4	2		C
02.	Electric power supply	7.DS.FC.02.	2	2	-	-	1	5	2		C
TOTAL			2	4	-	-	3	9	4		2C

Semester 8– Codul: U02.04.INS.07.8.
30 credits (14 weeks+ 2 weeks practice)

Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)	
				S	L	P						
MANDATORY DISCIPLINES (OB)												
01.	Optional discipline G: G1. Installations construction site organisation; G2. Unconventional energy sources.	8.DD.DO.01.	1	-	1	-	2	4	2		C	
02.	Building Automation II	8.DS.DI.02.	2	-	2	-	3	7	5		E	
03.	Natural gas supply systems	8.DS.DI.03.	2	-	1	-	3	6	5		E	
04.	Technology and Technical Assembly of Installations II	8.DD.DI.04.	2	-	1	-	2	5	3		C	
05.	Optional discipline H: H1. Project management; H2. Ethics and academic integrity.	8.DD.DI.05.	2	-	1	-	1	4	2		C	
06.	Marketing	8.DD.DI.06.	2	-	-	-	1	3	2		C	
07.	Practice for the elaboration of the diploma project	8.DS.DI.07.	2 săptămâni x 30 ore/săptăm.=60 ore							2		C
08.	Optional discipline I: I1. Reliability of installation systems; I2. Industrial ventilation; I3. Electrical and electronic measuring systems in installations.	8.DS.DO.08.	1	-	1	-	1	3	2		C	
09.	Optional discipline J: J1. Installations mngement	8.DS.DO.09.	1	-	1		1	3	3		E	

	and operation; J2. Rehabilitation of heating systems; J3. Special electrical installations.										
10.	Elaboration of the diploma project	8.DS.DI.10.				4	1	5	4		C
TOTAL			13	-	8	4	15	40	30		3E+7C
OPTIONAL DISCIPLINE (FC)											
Nr. crt.	Name of the discipline	The discipline code	C	Applications			SI	TO	CR	Prerequisites	Verification form (E,C,P)
				S	L	P					
01.	Connecting consumers to the national energetic grid	8.DS.FC.01.	2	-	-	-	1	3	2		C
TOTAL			2	-	-	-	1	3	2		1C
TOTAL CREDITS FOR ABSOLUTION *)									240		
Supporting the license project *)									10		
TOTAL CREDITS for the Engineer Diploma									250		

General and specialized knowledge and License project support: 10 credits
Total credits for obtaining the bachelor's degree after cycle I: 250 credits

Notations: C - hours of class; S - seminar hours; L - hours of laboratory / works; P - hours of project; PD - diploma project; PR - hours or practice; SI - hours of individual study; TO - total hours per week; CR - loans granted; E - exam; C - placed; V - verification.