



**Programm
Civil Engineering (Appendix 4)**

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SEMESTER 1

Semestr	Teaching Unit	Modules	Nature	Type	Hourly volume					Number of Credits Awarded		Coefficients		Evaluation method	
					Course	DW	PW	F2F	HW	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment
S1	T.U.01 : Fundamentals Sciences for Engineer I	Mathematics I	Fundamental	Presential	15	15	0	30	23	2	7	2	7		x
		Informatique I	Fundamental	Presential	15	0	15	30	23	2		2			x
		Numerical Analysis	Fundamental	Presential	15	15	15	45	34	3		3			x
	T.U.02: Fundamentals of Mechanics and Materials	Solid Mechanics	Fundamental	Presential	15	15	0	30	23	2	6	2	6		x
		Construction Materials	Fundamental	Presential	15	15	15	45	34	3		3			x
		Tutored Project 1-1	Fundamental	NOT Presential	0	0	15	15	7	1		1		x	
	T.U.03: eoenvi-ronmental Engi-neering and Fluid Mechanics	Engineering Geology and Geophysics	Fundamental	Presential	21	9	0	30	23	2	8	2	8		x
		Hydrology	Fundamental	Presential	30	15	0	45	34	3		3			x
		Fluid Mechanics	Fundamental	Presential	30	15	0	45	34	3		3			x
	T.U.04: CAD and Instru-mentation	Computer-Aided Building Drawing (CABD)	Fundamental	Presential	15	0	15	30	23	2	4,5	2	4,5	x	
		Tutored Project 1-2	Fundamental	NOT Presential	0	0	15	15	7	1		1		x	
		Measurement and Instrumentation	Fundamental	Presential	15	7,5	0	22,5	15	1,5		1,5			x
	T.U.05 : Human Sciences and Engineer Culturel	Initiation and Introduction to economics	Transversal	Presential	15	7,5	0	22,5	15	1,5	4,5	1,5	4,5		x
		Communication Technique	Transversal	Presential	15	7,5	0	22,5	15	1,5		1,5			x
		English I	Transversal	Presential	15	7,5	0	22,5	15	1,5		1,5			x
Total Hourly Workload					231	129	90	450	325	30		30			

SEMESTER 2

Semestr	Teaching Unit	Modules	Nature	Type	Hourly volume					Number of Credits Awarded		Allocated Coefficients		Evaluation method	
					Course	DW	PW	F2F	HW	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment
S2	T.U.06 : Fundamentals Sciences for Engineer I	Mathematics II	Fundamental	Presential	15	15	0	30	23	2	7,5	2	7,5		x
		Informatique II	Fundamental	Presential	15	0	15	30	23	2		2			x
		Numerical analysis project	Fundamental	NOT Presential	0	0	22,5	22,5	15	1,5		1,5		x	
		Probability and statistics	Fundamental	Presential	15	15	0	30	23	2		2			x
	T.U.07 : Fundamental Principles of Civil Engineering	Strength of Materials	Fundamental	Presential	30	15	15	60	40	4	10,5	4	10,5		x
		Soil Mechanics I	Fundamental	Presential	21	15	9	45	34	3		3			x
		Urban Hydraulics	Fundamental	Presential	15	15	0	30	23	2		2			x
		Tutored Project 1-3	Fundamental	NOT Presential	0	0	22,5	22,5	15	1,5		1,5		x	
	T.U.08 Building Physics and Topography	Building Thermal Systems	Fundamental	Presential	15	15	0	30	23	2	7	2	7		x
		Topography	Fundamental	Presential	15	15	15	45	34	3		3			x
		Building Acoustics	Fundamental	Presential	15	15	0	30	23	2		2			x
	T.U.09 : Human Sciences and Engineer Culture II	English II	Transversal	Presential	15	7,5	0	22,5	14	1,5	5	1,5	5	x	
		Site visits	Transversal	Presential	0	0	30	30	23	2		2		x	
Industrial Culture		Transversal	Presential	15	7,5	0	22,5	22,5	1,5	1,5				x	
Total Hourly Workload					186	135	129	450	335,5	30		30			



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SEMESTER 3

Semestr	Teaching Unit	Modules	Nature	Type	Hourly volume					Number of Credits Awarded		Allocated Coefficients		Evaluation method	
					Course	DW	PW	F2F	HW	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment
S3	T.U.10 : Structural Mechanics and Optimization	Operational research and optimization	Fundamental	Presential	15	15	15	45	34	3	12,5	3	12,5		x
		Plates and Shells	Fundamental	Presential	15	15	0	30	23	2		2			x
		Reinforced Concrete I	Fundamental	Presential	30	15	0	45	34	3		3			x
		Structural mechanics	Fundamental	Presential	30	15	0	45	34	3		3			x
		Tutored Project 1-2	Fundamental	NOT Presential	0	0	22,5	22,5	15	1,5		1,5		x	
	T.U.11 : Transportation Geotechnics and Planning	Design and Calculation of Roads	Fundamental	Presential	15	15	0	30	34	2	8	2	8		x
		Urban Transport Planning	Fundamental	Presential	15	7,5	0	22,5	15	1,5		1,5			x
		Soil Mechanics II	Fundamental	Presential	21	15	9	45	34	3		3			x
		Tutored Project 3-2	Fundamental	NOT Presential	0	0	22,5	22,5	15	1,5		1,5		x	
	T.U.12 : Urban Design and Building Technology	Architecture and Urban Planning	Fundamental	Presential	15	7,5	0	22,5	15	1,5	5	1,5	5		x
		Building equipment and electricity	Fundamental	Presential	15	7,5	0	22,5	15	1,5		1,5			x
		Informatique III	Fundamental	Presential	0	0	30	30	23	2		2			x
	T.U.13 : Human Sciences and Engineer Culture III	Occupational Health and Safety Management & Continuous Improvement(ISO45001/2018)	Transversal	Presential	15	7,5	0	22,5	15	1,5	4,5	1,5	4,5		x
		Problem Solving and Decision Making	Transversal	Presential	15	7,5	0	22,5	15	1,5		1,5			x
		English III	Transversal	Presential	15	7,5	0	22,5	15	1,5		1,5			x
Total Hourly Workload					216	135	99	450	336	30		30			

SEMESTER 4

Semestr	Teaching Unit	Modules	Nature	Type	Hourly volume					Number of Credits Awarded		Allocated Coefficients		Evaluation method	
					Course	DW	PW	F2F	HW	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment
S4	T.U.14 : Finite Element Analysis of Structures	Analysis of structures using finite elements	Fundamental	Presential	30	15	0	45	34	3	3	3	3		X
	T.U.15 : Design of Concrete and Steel Structures	Reinforced Concrete II	Fundamental	Presential	30	15	0	45	34	3	9	3	9		X
		Prestressed Concrete	Fundamental	Presential	30	15	0	45	34	3		3			X
		Design and Calculation of Steel Structures	Fundamental	Presential	30	15	0	45	34	3		3			X
	T.U.16 : Structural Design and Analysis	Design and calculation of civil engineering structures	Fundamental	Presential	30	15	0	45	34	3	6	3	6		X
		Design and calculation of building structures	Fundamental	Presential	30	15	0	45	34	3		3			X
	T.U.17 : Construction Technology and Building Services	General construction processes	Fundamental	Presential	15	15	0	30	23	2	5,5	2	5,5		X
		Reinforced Concrete Tanks	Fundamental	Presential	9	6	0	15	15	1		1			X
		Tutored Project 2-2	Fundamental	Not Presential	0	0	15	15	15	1		1		X	
		Air conditioning and heating Instructor	Fundamental	Presential	15	7,5		22,5	15	1,5		1,5			X
	T.U.18 : Capstone Project in Structural Engineering	End of Year Project	Fundamental	Not Presential	0	0	15	15	15	1	6,5	1	6,5	X	
		Arche	Fundamental	Presential	0	0	30	30	23	2		2		X	
		Revit Structure	Fundamental	Presential	0	0	30	30	23	2		2		X	
		English IV	Transversal	Presential	15	7,5	0	22,5	15	1,5		1,5			X
Total Hourly Workload					234	126	90	450	348	30	30	30			

SEMESTER 5

Semestr	Teaching Unit	Modules	Nature	Type	Hourly volume					Number of credits		Allocated Coefficients		Evaluation method		
					Course	DW	PW	F2F	HW	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment	
S5	T.U.19 : Civil Engineering Design Project Office	Building Design Office for Reinforced Concrete	Fundamental	Presential	15	0	15	30	23	2	11	11	2	x		
		Special Foundations Design Office	Fundamental	Presential	15	0	15	30	23	2			2	x		
		Road Design Office	Fundamental	Presential	15	0	15	30	23	2			2	x		
		Metallic Construction Design Office	Fundamental	Presential	15	0	7,5	22,5	23	1,5			1,5	x		
		Design Office for Reinforced Concrete Reservoirs	Fundamental	Presential	15	0	7,5	22,5	23	1,5			1,5	x		
		Design Office for Civil Engineering Structures	Fundamental	Presential	15	0	15	30	23	2			2	x		
	T.U.20 : Civil Engineering Construction: Maritime, Management, and Safety Aspects	Maritime works	Fundamental	Presential	15	7,5	0	22,5	23	1,5	4	4	1,5		x	
		Organization and Management of Construction Projects	Fundamental	Presential	15	7,5	0	22,5	23	1,5			1,5	x		
		Fire Safety and Fire Resistance of Structures	Fundamental	Presential	9	6	0	15	15	1			1		x	
	T.U.21 : Structural Performance and Optimization	Building Pathology	Fundamental	Presential	15	7,5	0	22,5	15	1,5	8,5	8,5	1,5		x	
		Structure optimization	Fundamental	Presential	15	15	0	30	23	2			2		x	
		Elasto-Plastic Analysis of Structures	Fundamental	Presential	15	15	0	30	23	2			2		x	
		Structural Dynamics	Fundamental	Presential	15	15	0	30	23	2			2		x	
		Tutored Project 4-1	Fundamental	Not Presential	0	0	15	15	15	1			1	x		
	T.U.22 : Option	A module to choose from:	optional	Presential	15	15	0	30	23	2	3	3	2		x	
Cartography and GIS																
Eco-design																



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T.U.23 : Human Sciences and Engineer Culture	A supervised project to choose from:	optional	Not Presential			15	15	15	1		1		x	
	Topography and cartography option Project						0							
	Eco-Design Option Project						0							
	Preparation for the English B2 certification	Transversal	Presential	15	7,5	0	22,5	15	1,5	3,5	1,5	3,5		x
	Labor Law	Transversal	Presential	9	6	0	15	15	1		1			x
	Research methodology	Transversal	Presential	9	6	0	15	15	1		1			x
Total Hourly Workload				237	108	105	450	381	30		30			



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SEMESTER 6 End-of-studies project

Semester	Teaching Unit	Modules	Nature	Type	Hourly volume				Number of Credits		Allocated Coefficients		Evaluation method	
					Course	DW	PW	Total	ECTS	TECTS	AC	TAC	Continuous Assessment	Blended Assessment
S6	T.U.24 : Internship	Technician Internship	Fundamental	NOT Presential	0	0	45	45	3	3	3	3	X	
		Ingeneering Intership	Fundamental	NOT Presential	0	0	45	45	3	3	3	3	X	
		End-of-Studies Project	Fundamental	NOT Presential	0	0	360	360	24	24	24	24	X	