

Studies Plan

Systèmes urbains 2025-2026

Block 1 "Core foundations"

Courses				Master 1				Master 2				Exam Session	Exam	Credit			
Lang.	Code	Sect.	Teacher	Specialization	En	L	T	P	I	C	E	L	T	P	I		
E	Computational systems thinking for sustainable eng.																
E	CIVIL-534	GC	Sonta							2h	1h		1h		Sum	During the semester	4
E	Social justice and transition in the urban context																
E	URB-403	SIE	Pattaroni							2h	1h				Sum	Oral	3
E	Systems approaches for urban transitions																
E	URB-401	SIE	Binder Hecher Jessel		2h	2h									Win	Oral	4
E	Urban digital twins																
E	URB-410	SIE	Kaplan							3h			1h		Sum	During the semester	4
E	Urban governance																
E	URB-402	SIE	Genoud							2h	2h				Sum	Written	4

Block 2 "Practical"

Courses				Master 1					Master 2					Exam Session	Exam	Credit
Lang.	Code	Sect.	Teacher	Specialization	En	L	T	P	I	C	E	L	T	P	I	
F	Projet core															
	URB-420	SIE	Profs divers							2h			8h	Sum	During the semester	10
F	Projet spécialisation															
	URB-425	SIE	Profs divers							10h			10h	Sum Win	During the semester	10
	HSS : Introduction to project															
		SHS												Win		3
	HSS : Project															
		SHS												Sum		3

Group 1 "Core options"

Courses				Master 1					Master 2					Exam Session	Exam	Credit
Lang.	Code	Sect.	Teacher	Specialization	En	L	T	P	I	C	E	L	T	P	I	
E	Climate and water sensitive urban design															
E	ENV-526	SIE	Manoli							2h			2h	Sum	During the semester	4
E	Computational methods in urban studies															
E	URB-404	SIE	Gumy Rames		2h			1h						Win	During the semester	3
E	Ecological contributions to cities in transformation															
E	URB-405	SIE			2h	1h								Win	During the semester	3
E	Innovation for construction and the environment															
E	CIVIL-424	GC	Terzis		2h	1h								Win	During the semester	3
E	Introduction to transportation systems															
E	CIVIL-355	GC	Bierlaire							2h	1h			Sum	During the semester	3
E	Railway systems and their transition															
E	URB-406	SIE	Kummer		2h	1h								Win	Oral	3

Group 2 "Specialization"

C : Course, E : Exercise, L : Lab, TP : Practical work, P : Course based project, I : Individual project, * : option course / F : French courses, D : Deutsch courses, E : English Courses / Sum : Summer, Win : Winter

E	ventilation CIVIL-460	GC	Licina		2h 2h		Sum	During the semester	4
E	Material flow analysis and resource management ENV-501	SIE	Binder Felix Martin Del Campo	2h 1h	1h		Win	Written	4
F	Mobility engineering CIVIL-451	GC	Tufo	2h 1h			Win	During the semester	3
E	Occupational and environmental health ENV-468	SIE	Vernez	2h 1h			Win	Oral	3
E	Planetary health BIO-413	SV	Banwell D'Angelo McKinney Oricchio	2h 2h			Win	During the semester	4
E	Shaping future railway systems URB-408	SIE	Kummer		2h 1h		Sum	Oral	3
F	Spatial and Regional Economy AR-492	AR	Dessemondet		2h		Sum	Written	3
E	Sustainability assessment of urban systems ENV-461	SIE	Binder		2h	1h	Sum	Written	3
E	Technology, sustainability and public policy MGT-450	MTE	Aklin	2h 2h			Win	Written	4
E	Transportation economics CIVIL-455	GC	Geroliminis Yang de Palma		2h 1h		Sum	During the semester	3
	UE J : Territory and landscape AR-471	AR	Cogato Lanza Riondel	3h 1h			Win	During the semester	4
F	Urban and territorial analysis AR-264	AR	Cogato Lanza Riondel		1h 2h		Sum	During the semester	4
E	Urban demography AR-507	AR	Lerch		2h		Sum	During the semester	3
E	Urban Green&Blue infrastructure and global warming ENV-462	SIE	Kazemi		2h	1h	Sum	During the semester	3
F	Urban habitat and development AR-465	AR	Felder Pattaroni Schaeben		2h		Sum	Oral	3
E	Urban hydraulic systems CIVIL-413	GC	Pfister		2h 1h		Sum	Oral	3
F	Urbanism and Territories AR-455	AR	Kaufmann Viot	2h			Win	During the semester	3
E	Urban public transport systems CIVIL-324	GC	Zhang		2h 1h		Sum	During the semester	3
F	Urban sociology AR-489	AR	Del Puppo Felder Pattaroni	2h			Win	During the semester	3

Master project

Courses				Master 1				Master 2				Exam Session	Exam	Credit		
Lang.	Code	Sect.	Teacher	Specialization	En	L	T	P	I	C	E	L	T	P	I	
Stage d'ingénierie crédité avec le PDM (master en Systèmes urbains)																
F	URB-596	SIE	Profs divers							320h				320h	Win	During the 0 semester