

Programme in French - 25 ECTS minimum

Structural conception : calculation of beams stresses, dimensioning of concrete and steel structural elements (drawing and CAD), apprehension of soil-structure connections

General construction: materials, building conception ( architecture, rehabilitation, safety and accessibility), surveying and road modelling, construction processes of underground works

Code	Subjects	Lectures	Tutorials	Practical work	Exam	Project	Workload (h)	ECTS	Language
TC3CS6	Computer science			✓		✓	64	3	FR
TC3RSE6	Research scientific experiment	✓		✓	✓	✓	34	2	FR
TC3MST6	Structural mechanics	✓	✓	✓	✓		106	5	FR
TC3RC6	Reinforced concrete	✓	✓	✓	✓		88	4	FR
TC3PC6	Prestressed concrete	✓	✓	✓	✓		46	2	FR
TC3MS6	Metal structures	✓	✓	✓	✓		70	3	FR
TC3SSROB6	Structure software - ROBOT	✓	✓	✓	✓		32	2	FR
TC3SM6	Soil mechanics	✓	✓	✓	✓		58	3	FR
TC3M6	Materials	✓	✓	✓	✓	✓	86	4	FR
TC3GC6	General construction		✓	✓	✓	✓	54	3	FR
TC3TO6	Topography		✓	✓	✓	✓	24	1	FR
TC3CGP6	Construction general process	✓	✓	✓	✓		36	2	FR
TC3BIMI6	BIM - Introduction	✓	✓	✓	✓		20	1	FR
<b>Elective subjects</b>									
TC3FLE6	French as a foreign language	✓	✓	✓	✓		66	3	FR
TC3E6	English	✓	✓	✓	✓		64	3	FR

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2 projects including : metal and concrete structures - foundations and calculations - Human and financial management

1 research and innovation project including bibliographic research and issue address .

Code	Subjects	Lectures	E-learning	Tutorials	Practical work	Exam	Project	Workload (h)	ECTS	Language
<b>Structures</b>										
TC4MS7	Metal structures	✓	✓	✓	✓	✓	✓	84	4	FR
TC4RC7	Reinforced concrete	✓	✓	✓	✓	✓	✓	84	4	FR
<b>Management</b>										
TC4LL7	Law and legislation	✓	✓	✓	✓	✓	✓	54	3	FR
TC4COM7	Company organization and management	✓	✓	✓	✓	✓	✓	42	2	FR
TC4WOM7	Works organization and management	✓	✓	✓	✓	✓	✓	84	4	FR
TC4HSM7	Human sciences and management	✓	✓	✓	✓	✓	✓	88	4	FR
TC4EM7	Ethic management	✓	✓	✓	✓	ü	✓	10	1	FR
<b>Research and innovation</b>										
TC4RIP7	Research and innovation project	✓	✓	✓	✓	✓	✓	44	2	FR
TC4BIMA7	BIM Allplan	✓	✓	✓	✓	✓	✓	40	2	FR
<b>Elective subjects</b>										
TC3FLE7	French as a foreign language	✓	✓	✓	✓	✓	✓	66	3	FR
TC3E7	English	✓	✓	✓	✓	✓	✓	48	2	FR

Programme with English and French taught subjects - Minimum 25 ECTS

Innovations and green building

Agile building and 4.0 building

Code	Subjects	Lectures	Tutorials	Practical work	Exam	Project	Workload (h)	ECTS	Language
<b>Sustainable building</b>									
TC4LCA8	Life Cycle Analysis	✓	✓		✓	✓	56	3	EN
TC4H8	Hydraulics	✓	✓			✓	50	2	EN
TC4STB8	Sustainable timber building					✓	50	2	EN
TC4BET8	Building and energy transition	✓				✓	58	3	FR
TC4SC8	Sustainable city	✓	✓	✓		✓	46	2	FR/EN
TC4ESB8	Environmental stakes in building	✓				✓	42	2	FR/EN
<b>Agile building</b>									
TC4WP8	Works planning	✓				✓	54	3	FR/EN
TC4EDV8	Engineering dynamics and vibrations	✓		✓		✓	60	3	FR/EN
TC4RM8	Risk management	✓			✓		18	1	FR/EN
TC4SP8	Structure project - Reinforced concrete and geotechnics						30	2	EN
TC4RR8	Renovation -Rehabilitation	✓	✓			✓	48	2	EN
<b>4.0 building</b>									
TC4PM8	Project management	✓				✓	48	2	FR/EN
TC4BIM8	BIM -REVIT	✓	✓	✓		✓	160	7	EN
TC4RHM8	Road and highways (3D) modeling	✓	✓			✓	48	2	EN
TC4SSI8	Soils and structures instrumentation	✓	✓	✓		✓	30	2	EN
<b>Options - Elective subjects</b>									
TC4FLE8	French as a Foreign Language	✓			✓		66	3	FR
TC4FLE2	English	✓			✓		98	4	EN

End-of-study project / Final project - Minimum 28 ECTS (Technical module + final project)

Sustainable building : advanced technical education and project in groups of 4 or 5 students . On a given plot, the group has to design a building with public access and accomodations: architecture, fire safety, accessibility, acoustic, thermic, sustainable development, pricing, methods and planning . A full project which leads to the final tender .

Code	Subjects	Lectures	Tutorials	Practical work	Exam	Project	Workload	ECTS	Language
<b>Technical modules</b>									
TC5BSD9	Sustainable development	✓				✓	18	1	FR
TC5BLCB9	Low Carbon Building	✓				✓	30	2	FR
TC5BSIH9	Fire safety and handicap	✓				✓	36	2	FR
TC5BA9	Accoustics	✓	✓		✓		34	2	FR
TC5BRB9	Building rehabilitation	✓	✓			✓	58	3	FR
TC5BAOEM9	Tender and market research	✓	✓		✓		48	2	FR
TC5BGC9	Climatic engineering	✓	✓		✓		66	3	FR
TC5BTS9	Sanitary technics	✓	✓			✓	26	2	FR
TC5BE9	Electricity	✓	✓			✓	32	2	FR
<b>Final Projet</b>									
			✓	✓		✓	186	8	FR
<b>Elective subjects</b>									
TC5BLM9	Lean management	✓		✓		✓	30	2	FR
TC5BQSE9	Quality Safety Environment	✓			✓		28	2	FR
TC5BGC9	French General Culture	✓		✓	Oral exam		82	4	FR
TC5BFLE9	French as a foreign language	✓	✓		✓		66	3	FR

End-of-study project / Final project - 28 ECTS minimum ( Technical modules + final project)

Public and civil engineering works , town and country planning : advanced technical education and project in groups of 4 or 5 students . Given a specific area, the team will have to design art of road and a bridge: Road layout, road worksite organisation and management, bridge conception and methods,topography, pricing, lightening and signaling A full project which leads to the final tender .

Code	Subjects	Lectures	Tutorials	Practical work	Exam	Project	Workload	ECTS	Language
<b>Technical modules</b>									
TC5CELER9	Layouts,earthwork and roadways	✓		✓		✓	120	5	FR
TC5CERBC9	Bridge conception	✓		✓		✓	40	2	FR
TC5CEBEM9	Bridge execution method	✓		✓		✓	40	2	FR
TC5CERWO9	Road worksite organisation	✓			✓		42	2	FR
TC5CERN9	Roadways and networks	✓	✓	✓	✓		52	3	FR
TC5CERRT9	Road traffic	✓		✓	✓		28	2	FR
TC5CELS9	Lightening and signalling	✓				✓	18	1	FR
TC5CECEP9	Civil Engineering pricing	✓	✓		✓		32	2	
<b>Final Projet</b>									
			✓			✓	118	5	FR
<b>Elective subjects</b>									
TC5CEPMPW9	Pathology and maintance of PW	✓	✓		✓		54	3	FR
TC5CEUW9	Underground works	✓				✓	30	2	FR
TC5CEMAW9	Maritime and airport works	✓	✓		✓		54	3	FR
TC5CERW9	Railways	✓			✓		22	1	FR
TC5CEFGC9	French General Culture	✓	✓		Oralexam		32	2	FR
TC5BFLE9	French as a foreign language	✓	✓		✓		66	3	FR