

#### Cycle view of the study programme

B1 Or Th Pr Au Cr

Depending on your educational background or depending on the focus, it is possible that the prerequisites / corequisites for the 1st year of the programme are presented in the block 2. You are therefore invited to read through the list of courses in block 2 even if you are registering for the first time in this master.

Within the framework of their Master in Civil Engineering, all students must follow or validate the 90 credits of joint training (including placement and final year dissertation) and 30 credits from one of the two professional focuses, i.e. 'civil engineering' or 'urban and environmental engineering'.

Ideally, students studying for the master's degree will have acquired the competences and knowledge corresponding to the 40 credits of technical courses specific to the field of construction, taught within the framework of the Bachelor in Civil Engineering.

#### Cours obligatoires de la finalité (B2 : 21Cr)

GCIV2065-1	<i>Design and execution of water management infrastructures</i> (english language) - Benjamin DEWALS, Sébastien ERPICUM - [1d FW, 12h Proj., 2h Labo.]	B2	Q1	18	18	[+]	3
GCIV2174-1	<i>Design and execution of road infrastructures</i> (english language) - Bertrand FRANÇOIS - [2d FW]	B2	Q1	20	10	[+]	3
GCIV0642-1	<i>Design and Construction of Bridges</i> (english language) - Frédéric GENS - [40h Proj.]	B2	Q1	-	40	[+]	3
PRCO0001-1	<i>Integrated project</i> - Laurent DUCHENE, Frédéric GENS, Boyan MIHAYLOV - [2d FW, 100h Proj.]	B2	Q1	-	90	[+]	7
GEST3162-1	<i>Principles of management</i> (english language) - Michaël PARMENTIER - [25h Proj.]	B2	Q1	30	-	[+]	5

#### Cours au choix de la finalité (B2 : 9Cr)

Choose courses totalling 9 ECTS from the following : (B2 : 9Cr)

*Notice* : Students who have not followed the GCIV2172-1, GCIV2173-1, GCIV0603-2 and GCIV0604-3 of the 'Constructions' option of the Civil Engineering Bachelor's programme or acquired the corresponding skills and knowledge will incorporate these four courses as a priority into their programme.

GCIV2172-1	<i>Metallic Elements Calculation</i> - [1d FW, 10h Proj.]	B2	Q2	26	26	[+]	3
GCIV2173-1	<i>Reinforced concrete</i> (english language) - Boyan MIHAYLOV - [1d FW, 10h Proj.]	B2	Q2	26	26	[+]	3
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Bertrand FRANÇOIS - [1d FW, 2h Labo.]	B2	Q2	26	26	[+]	3
GCIV0604-3	<i>Hydraulic</i> - Pierre ARCHAMBEAU, Michel PIROTTON - [1d FW, 15h Proj.]	B2	Q1	22	30	[+]	3
GCIV2178-1	<i>Natural and technological risks in civil engineering</i> (english language) - JeanFrançois DEMONCEAU, Benjamin DEWALS - [10h Proj., 1d FW]	B2	Q1	15	15	[+]	3
GCIV2063-1	<i>Planning buildings, co-ordination and safety on building sites</i> - Fabian BOUCHER - [1d FW]	B2	Q1	15	15	[+]	3
GCIV2066-1	<i>Fundamentals of transportation : transport planning</i> (english language) - Mario COOLS	B2	Q1	15	15	-	3
GCIV0133-9	<i>Maintenance, repair and reinforcement of constructions</i> (english language) - Luc COURARD - [1d FW]	B2	Q1	20	20	[+]	3
GCIV0165-1	<i>Timber constructions</i> (english language)	B2	Q1	15	15	-	3
GCIV2171-1	<i>Non linear finite elements</i> (english language) - Frédéric COLLIN, Vincent DENOËL - [15h Proj.]	B2	Q1	20	20	[+]	3

#### Corequisite :

GCIV0185-7 - Méthodes numériques linéaires en génie civil et géologique

GCIV2050-2	<i>Seismic engineering</i> (english language) - Hervé DEGÉE, Boyan MIHAYLOV - [15h Proj.]	B2	Q1	15	15	[+]	3
GCIV2042-2	(pas organisé en 2024-2025) <i>Fire safety engineering</i> (english language)	B2	Q1	18	18	-	3
GCIV2184-1	<i>Masonry Structures</i> (english language) - N...	B2	Q1	20	20	-	3
<b>Cours obligatoires du tronc commun (B1 : 60Cr, B2 : 30Cr)</b>							
GCIV0201-2	<i>Concretes and new Materials Technologies</i> - Luc COURARD - [0,5d FW, 6h Labo., 8h Proj.]	B1	Q1	32	20	[+]	5
GCIV0643-1	<i>Prestressed concrete structures</i> - Hervé DEGÉE, Boyan MIHAYLOV - [1d FW, 20h Proj.] <b>Corequisite :</b> GCIV0607-2 - Analyse des structures I GCIV2173-1 - Béton armé	B1	Q1	26	26	[+]	5
GCIV0644-1	<i>Metallic and Steel-Concrete composite Structures</i> - [1d FW, 20h Proj.] <b>Corequisite :</b> GCIV2172-1 - Calcul d'éléments métalliques GCIV0185-7 - Méthodes numériques linéaires en génie civil et géologique GCIV0607-2 - Analyse des structures I	B1	Q2	35	17	[+]	5
GCIV0646-1	<i>Buildings conception and execution</i> - <i>Basic concepts</i> - Boyan MIHAYLOV - [1d FW] - <i>Advanced concepts + Project</i> - [40h Proj.]	B1	Q2	40	-	[+]	5
GCIV2034-1	<i>Free surface flow</i> - Sébastien ERPICUM, Michel PIROTON - [1d FW, 2h Labo., 10h Proj.] <b>Corequisite :</b> GCIV0604-3 - Hydraulique	B1	Q1	27	25	[+]	5
GCIV2035-1	<i>Fluvial hydrodynamics</i> - Pierre ARCHAMBEAU, Benjamin G. DEWALS - [30h Proj.] <b>Corequisite :</b> GCIV2034-1 - Ecoulements à surface libre GCIV0185-7 - Méthodes numériques linéaires en génie civil et géologique	B1	Q2	26	26	[+]	5
GCIV2036-2	<i>Soils and Rocks mechanics</i> - Frédéric COLLIN - [1d FW, 5h Proj.]	B1	Q1	26	26	[+]	5
GCIV2037-1	<i>Structures analysis II</i> - Vincent DENOËL - [15h Proj.] <b>Corequisite :</b> GCIV0607-2 - Analyse des structures I	B1	Q2	28	24	[+]	5
GCIV0185-7	<i>Linear numerical methods in Civil and Geological Engineering</i> - Laurent DUCHENE, Michel PIROTON - [30h Proj.]	B1	Q1	22	30	[+]	5
GCIV0009-1	<i>Design and execution of hydraulic structures</i> - Sébastien ERPICUM - [1d FW, 16h Proj.] <b>Corequisite :</b> GCIV2034-1 - Ecoulements à surface libre	B1	Q2	30	22	[+]	5
GCIV0607-2	<i>Structures Analysis I</i> - Vincent DENOËL	B1	Q1	28	24	-	5
GCIV2049-1	<i>Geotechnical Structures Conception and Execution</i> - Frédéric COLLIN - [20d Proj.] <b>Corequisite :</b> GCIV0603-2 - Géotechnique et infrastructures GCIV2036-2 - Mécanique des sols et des roches GCIV2037-1 - Analyse des structures II	B1	Q2	17	35	[+]	5
ASTG0016-1	<i>Internship</i> - Bertrand FRANÇOIS - [20d FW]	B2	Q2	-	-	[+]	5
ATFE0010-1	<i>Master Thesis (including an introduction to methodology and research)</i> - Bertrand FRANÇOIS - [750h Proj.]	B2	Q2	-	-	[+]	25
Notice : Final year trip: visits to works of art (optional)							

## Additional ECTS Master in civil engineering (120 ECTS)

### Optional courses (B0 : 60Cr)

Each student's programme will be determined by the jury depending on their prior training. If an applicant does not meet certain prerequisites, his or her programme may include up to 60 additional course credits essentially taken from the list below : (B0 : 60Cr)

MATH0006-3	<i>Introduction to numerical analysis</i> (english language) - Quentin LOUVEAUX	B0	Q1	20	20	-	<b>4</b>
MECA0001-2	<i>Mechanics of materials</i> - Laurent DUCHENE - [2h Labo., 12h Proj.]	B0	Q1	27	25	[+]	<b>5</b>
MECA0011-2	<i>Fluid Mechanics : Basics</i> - Michel PIROTON - [25h Proj.]	B0	Q2	20	30	[+]	<b>4</b>
LANG0039-2	<i>English 2, English for Engineering</i> (english language) - Clara BRERETON, Véronique DOPPAGNE, Pascale DRIANNE, Stéphane GHIJSEN, Philippe JEUKENNE, Martin POLSON, David VANMANSHOVEN - [20h Proj.]	B0	TA	-	30	[+]	<b>3</b>
MATH0067-1	<i>Introduction to statistics and probability</i> - Vincent DENOËL - [15h Proj.]	B0	Q1	20	25	[+]	<b>3</b>
GCIV0184-5	<i>Building Materials</i> - Luc COURARD, Anne HABRAKEN - [0,5d FW, 12h Labo., 12h Proj.]	B0	Q2	36	16	[+]	<b>5</b>
MECA0012-6	<i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]	B0	Q2	26	26	[+]	<b>5</b>
GCIV0604-3	<i>Hydraulic</i> - Pierre ARCHAMBEAU, Michel PIROTON - [1d FW, 15h Proj.]	B0	Q1	22	30	[+]	<b>5</b>
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Bertrand FRANÇOIS - [1d FW, 2h Labo.]	B0	Q2	26	26	[+]	<b>5</b>
GCIV0608-1	<i>Introduction to Structures engineering</i> - Vincent DENOËL - [4d FW, 40h Proj.]	B0	Q1	12	12	[+]	<b>5</b>
GEOL0001-1	<i>Geology and Engineering geology</i> - [2d FW]	B0	Q2	30	22	[+]	<b>5</b>
GCIV2172-1	<i>Metallic Elements Calculation</i> - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	<b>5</b>
GCIV2173-1	<i>Reinforced concrete</i> (english language) - Boyan MIHAYLOV - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	<b>5</b>

[...] Choose maximum 1 credit to complete the curriculum