

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.

As part of the Master of Science (MSc) in Civil Engineering, students must complete or have validated 90 common course credits (including the internship and final piece of work) and 30 credits in the specialised focus. Ideally, students taking the Master's programme will have acquired the skills and knowledge corresponding to 40 credits of technical courses specific to the field of construction organised as part of their Bachelor of Science (BSc) in Engineering programme.

Core curriculum compulsory courses (B1 : 60Cr, B2 : 30Cr)

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.] Corequisite : 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> - JeanFrançois DEMONCEAU - [1d FW, 20h Proj.] Corequisite : 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> - [1d FW] - <i>Advanced concepts + Project</i> - [40h Proj.]	B1	Q2	24	-	[+]	5
GCIV2034-1	<i>Free surface flow</i> - Sébastien ERPICUM, Michel PIROTON - [1d FW, 2h Labo., 10h Proj.] Corequisite : GCIV0604-3 - Hydraulique	B1	Q1	27	25	[+]	5
GCIV2035-1	<i>Fluvial hydrodynamics</i> - Pierre ARCHAMBEAU, Benjamin DEWALS - [30h Proj.] Corequisite : 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 - Suppl : Kevin THEUNISSEN - [15h Proj.] Corequisite : 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.] Corequisite : 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.] Corequisite : 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
<i>Notice</i> : Final year trip: visits to works of art (optional)							

Focus compulsory courses (B2 : 21Cr)

GCIV2065-1	<i>Design and execution of water management infrastructures (english language)</i> - Benjamin DEWALS, Sébastien ERPICUM - [1d FW, 12h Proj., 2h Labo.]	B2	Q1	18	18	[+]	3
GCIV2174-1	<i>Design and execution of road infrastructures (english language)</i> - Bertrand FRANÇOIS - [2d FW]	B2	Q1	20	10	[+]	3
GCIV0642-1	<i>Design and Construction of Bridges (english language)</i> - Frédéric GENS - [40h Proj., 2d FW]	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 (english language)</i> - Michaël PARMENTIER, Willem STANDAERT - [25h Proj.]	B2	Q1	30	-	[+]	5

Focus optional courses (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 Constructions₂ 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> - JeanFrançois DEMONCEAU - [1d FW, 10h Proj.]	B2	Q2	26	26	[+]	3
GCIV2173-1	<i>Reinforced concrete (english language)</i> - 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 PIROTON - [1d FW, 15h Proj.]	B2	Q1	22	30	[+]	3
GCIV2178-1	<i>Natural and technological risks in civil engineering (english language)</i> - JeanFrançois DEMONCEAU, Benjamin DEWALS - [10h Proj., 1d FW]	B2	Q1	15	15	[+]	3
GCIV2063-1	<i>Planning buildings, coordination and safety on building sites (english language)</i> - Fabian BOUCHER - [1d FW]	B2	Q1	15	15	[+]	3
GCIV2066-1	<i>Fundamentals of transportation : transport planning (english language)</i> - Mario COOLS	B2	Q1	15	15	-	3
GCIV0133-9	<i>Maintenance, repair and reinforcement of constructions (english language)</i> - Luc COURARD - [1d FW]	B2	Q1	20	20	[+]	3
GCIV0165-1	<i>Timber constructions (english language)</i> - Margaux GEUZAINÉ	B2	Q1	15	15	-	3
GCIV2171-1	<i>Non linear finite elements (english language)</i> - 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 (english language)</i> - Boyan MIHAYLOV - [15h Proj.]	B2	Q1	15	15	[+]	3
GCIV2042-2	(pas organisé en 2026-2027) <i>Fire safety engineering (english language)</i>	B2	Q1	18	18	-	3

GCIV2184-1	<i>Masonry Structures</i> (english language) - Hervé DEGÉE	B2	Q1	20	20	-	3
GCIV2185-1	<i>AI for civil engineering</i> (english language)	B2	Q1	20	20	-	3

List of additional courses

MATH0006-3	<i>Introduction to numerical analysis</i> (english language) - Quentin LOUVEAUX	B0	Q1	20	20	-	4
MECA0001-2	<i>Mechanics of materials</i> - JeanFrançois DEMONCEAU, Laurent DUCHENE - [2h Labo., 12h Proj.]	B0	Q1	27	25	[+]	5
MECA0011-2	<i>Fluid Mechanics : Basics</i> - Michel PIROTTON - [25h Proj.]	B0	Q2	20	30	[+]	4
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	[+]	3
MATH0067-1	<i>Introduction to statistics and probability</i> - Vincent DENOËL - [15h Proj.]	B0	Q1	20	25	[+]	3
GCIV0184-5	<i>Building Materials</i> - Luc COURARD, Anne HABRAKEN - [0,5d FW, 12h Labo., 12h Proj.]	B0	Q2	36	16	[+]	5
MECA0012-6	<i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]	B0	Q2	26	26	[+]	5
GCIV0604-3	<i>Hydraulic</i> - Pierre ARCHAMBEAU, Michel PIROTTON - [1d FW, 15h Proj.]	B0	Q1	22	30	[+]	5
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Bertrand FRANÇOIS - [1d FW, 2h Labo.]	B0	Q2	26	26	[+]	5
GCIV0608-1	<i>Introduction to Structures engineering</i> - JeanFrançois DEMONCEAU, Margaux GEUZAINÉ - [4d FW, 40h Proj.]	B0	Q2	12	12	[+]	5
GEOL0001-1	<i>Geology and Engineering geology</i> - Serge BROUYÈRE, Philippe ORBAN - [2d FW]	B0	Q2	30	22	[+]	5
GCIV2172-1	<i>Metallic Elements Calculation</i> - JeanFrançois DEMONCEAU - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	5
GCIV2173-1	<i>Reinforced concrete</i> (english language) - Boyan MIHAYLOV - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	5
MATH0504-1	<i>Applied mathematics</i> - Benjamin DEWALS, Christophe GEUZAINÉ	B0	Q1	26	26	-	5

Bridging courses Master in civil engineering (120 credits)

Optional courses (B0 : 60Cr)

Le programme de chaque étudiant sera déterminé par le jury en fonction de sa formation antérieure. Si un candidat à l'admission ne maîtrise pas certains prérequis, son programme comportera jusqu'à 60 crédits de cours supplémentaires essentiellement issus de la liste ci-dessous.

Pour les porteurs d'un grade de master en sciences industrielles ou de master en sciences de l'ingénieur industriel (toutes finalités) le volume du complément de programme pourra être réduit à 15 crédits. (B0 : 60Cr)

MATH0006-3	<i>Introduction to numerical analysis</i> (english language) - Quentin LOUVEAUX	B0	Q1	20	20	-	4
MECA0001-2	<i>Mechanics of materials</i> - JeanFrançois DEMONCEAU, Laurent DUCHENE - [2h Labo., 12h Proj.]	B0	Q1	27	25	[+]	5
MECA0011-2	<i>Fluid Mechanics : Basics</i> - Michel PIROTTON - [25h Proj.]	B0	Q2	20	30	[+]	4
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	[+]	3

MATH0067-1	<i>Introduction to statistics and probability</i> - Vincent DENOËL - [15h Proj.]	B0	Q1	20	25	[+]	3
GCIV0184-5	<i>Building Materials</i> - Luc COURARD, Anne HABRAKEN - [0,5d FW, 12h Labo., 12h Proj.]	B0	Q2	36	16	[+]	5
MECA0012-6	<i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]	B0	Q2	26	26	[+]	5
GCIV0604-3	<i>Hydraulic</i> - Pierre ARCHAMBEAU, Michel PIROTON - [1d FW, 15h Proj.]	B0	Q1	22	30	[+]	5
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Bertrand FRANÇOIS - [1d FW, 2h Labo.]	B0	Q2	26	26	[+]	5
GCIV0608-1	<i>Introduction to Structures engineering</i> - JeanFrançois DEMONCEAU, Margaux GEUZAINÉ - [4d FW, 40h Proj.]	B0	Q2	12	12	[+]	5
GEOL0001-1	<i>Geology and Engineering geology</i> - Serge BROUYÈRE, Philippe ORBAN - [2d FW]	B0	Q2	30	22	[+]	5
GCIV2172-1	<i>Metallic Elements Calculation</i> - JeanFrançois DEMONCEAU - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	5
GCIV2173-1	<i>Reinforced concrete</i> (english language) - Boyan MIHAYLOV - [1d FW, 10h Proj.]	B0	Q2	26	26	[+]	5
MATH0504-1	<i>Applied mathematics</i> - Benjamin DEWALS, Christophe GEUZAINÉ	B0	Q1	26	26	-	5