Block view of the study programme

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Block 1

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

GCIV0201-2	*Concretes and new Materials Technologies* - Luc COURARD - [0,5d FW, 6h Labo., 8h Proj.]	Q1	32	20	[+]	**5**
GCIV0643-1	*Prestressed concrete structures* - Hervé DEGÉE, Boyan MIHAYLOV - [1d FW, 20h Proj.] **Corequisite :** GCIV0607-2 - Analyse des structures I GCIV2173-1 - Béton armé	Q1	26	26	[+]	**5**
GCIV0644-1	*Metallic and Steel-Concrete composite Structures* - 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	Q2	35	17	[+]	**5**
GCIV0646-1	*Buildings conception and execution* - *Basic concepts* - Nenad BIJELIC, JeanFrançois DEMONCEAU, Boyan MIHAYLOV - [1d FW] - *Advanced concepts + Project* - Nenad BIJELIC, JeanFrançois DEMONCEAU - [40h Proj.]	Q2	24 16	- -	[+] [+]	**5**
GCIV2034-1	*Free surface flow* - Sébastien ERPICUM, Michel PIROTTON - [1d FW, 2h Labo., 10h Proj.] **Corequisite :** GCIV0604-3 - Hydraulique	Q1	27	25	[+]	**5**
GCIV2035-1	*Fluvial hydrodynamics* - Pierre ARCHAMBEAU, Benjamin DEWALS - [30h Proj.] **Corequisite :** GCIV2034-1 - Ecoulements à surface libre GCIV0185-7 - Méthodes numériques linéaires en génie civil et géologique	Q2	26	26	[+]	**5**
GCIV2036-2	*Soils and Rocks mechanics* - Frédéric COLLIN - [1d FW, 5h Proj.]	Q1	26	26	[+]	**5**
GCIV2037-1	*Structures analysis II* - Vincent DENOËL - Suppl : Kevin THEUNISSEN - [15h Proj.] **Corequisite :** GCIV0607-2 - Analyse des structures I	Q2	28	24	[+]	**5**
GCIV0185-7	*Linear numerical methods in Civil and Geological Engineering* - Laurent DUCHENE, Michel PIROTTON - [30h Proj.]	Q1	22	30	[+]	**5**
GCIV0009-1	*Design and execution of hydraulic structures* - Sébastien ERPICUM - [1d FW, 16h Proj.] **Corequisite :** GCIV2034-1 - Ecoulements à surface libre	Q2	30	22	[+]	**5**
GCIV0607-2	*Structures Analysis I* - Vincent DENOËL - Suppl : Kevin THEUNISSEN	Q1	28	24	-	**5**
GCIV2049-1	*Geotechnical Structures Conception and Execution* - Frédéric COLLIN - [20d Proj.]	Q2	17	35	[+]	**5**

Corequisite :
GCIV0603-2 - Géotechnique et infrastructures
GCIV2036-2 - Mécanique des sols et des roches
GCIV2037-1 - Analyse des structures II

Block 2

Focus compulsory courses

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

Focus optional courses

Choose courses totalling 9 ECTS from the following :

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	*Metallic Elements Calculation* - JeanFrançois DEMONCEAU - [1d FW, 10h Proj.]	Q2	26	26	[+]	**3**
GCIV2173-1	*Reinforced concrete* (english language) - Boyan MIHAYLOV - [1d FW, 10h Proj.]	Q2	26	26	[+]	**3**
GCIV0603-2	*Geotechnics and infrastructure* - Bertrand FRANÇOIS - [1d FW, 2h Labo.]	Q2	26	26	[+]	**3**
GCIV0604-3	*Hydraulic* - Pierre ARCHAMBEAU, Michel PIROTTON - [1d FW, 15h Proj.]	Q1	22	30	[+]	**3**
GCIV2178-1	*Natural and technological risks in civil engineering* (english language) - JeanFrançois DEMONCEAU, Benjamin DEWALS - [10h Proj., 1d FW]	Q1	15	15	[+]	**3**
GCIV2063-1	*Planning buildings, co-ordination and safety on building sites* - Fabian BOUCHER - [1d FW]	Q1	15	15	[+]	**3**
GCIV2066-1	(pas organisé en 2024-2025) *Fundamentals of transportation : transport planning* (english language) - Mario COOLS	Q1	15	15	-	**3**
GCIV0133-9	*Maintenance, repair and renforcement of constructions* (english language) - Luc COURARD - [1d FW]	Q1	20	20	[+]	**3**
GCIV0165-1	*Timber constructions* (english language) - - Suppl : José Alexandre GOUVEIA HENRIQUES	Q1	15	15	-	**3**
GCIV2171-1	*Non linear finite elements* (english language) - Frédéric COLLIN, Vincent DENOËL - [15h Proj.] **Corequisite :** GCIV0185-7 - Méthodes numériques linéaires en génie civil et géologique	Q1	20	20	[+]	**3**
GCIV2050-2	*Seismic engineering* (english language) - Hervé DEGÉE, Boyan MIHAYLOV - [15h Proj.]	Q1	15	15	[+]	**3**
GCIV2042-2	(pas organisé en 2024-2025) *Fire safety engineering* (english language)	Q1	18	18	-	**3**
GCIV2184-1	*Masonry Structures* (english language) - Hervé DEGÉE	Q1	20	20	-	**3**

Core curriculum compulsory courses

ASTG0016-1	*Internship* - Bertrand FRANÇOIS - [20d FW]	Q2	-	-	[+]	**5**
ATFE0010-1	*Master Thesis (including an introduction to methodology and research)* - Bertrand FRANÇOIS - [750h Proj.]	Q2	-	-	[+]	**25**

Notice : Final year trip: visits to works of art (optional)

Bloc d'aménagement du programme de l'année

Bridging courses Master in civil engineering (120 credits)

Notice : 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 credits of bridging courses, essentially taken from the list below :

Optional courses

[...] Choose from 1 to 30 credits among:

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

[...] Choose a maximum of 1 off-list credit

Bridging courses Master in civil engineering (120 credits)

Notice : 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 credits of bridging courses, essentially taken from the list below :

Optional courses

[...] Choose 31 to 60 credits

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

[...] Choose a maximum of 1 off-list credit