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* - [1d FW] - *Advanced concepts + Project* - [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	Q1	28	24	-	**5**
GCIV2049-1	*Geotechnical Structures Conception and Execution* - Frédéric COLLIN - [20d Proj.] **Corequisite :** GCIV0603-2 - Géotechnique et infrastructures	Q2	17	35	[+]	**5**

GCIV2036-2 - Mécanique des sols et des roches
GCIV2037-1 - Analyse des structures II

Block 2

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)

Focus courses

Notice : Students must submit a file for this focus (contact: jury chair). Only students who have acquired a sufficient number of credits in the field of 'Constructions' will be selected.

UEEN0007-1	*District Energy Systems* (english language) - Pierre DEWALLEF - [8h Proj., 1d FW]	Q1	16	8	[+]	**3**
UEEN0008-1	*Urban water systems* (english language) - Benjamin DEWALS - [12h Proj.]	Q1	18	18	[+]	**3**
UEEN0002-1	*Land rehabilitation in urban environments* (english language) - Serge BROUYÈRE, Frédéric COLLIN - [10h Labo., 20h Proj., 2d FW]	Q1	20	10	[+]	**5**
UEEN0003-1	*Urban resilience* (english language) - [60h Proj., 1d FW]	Q1	36	16	[+]	**5**
UEEN0004-1	*Urban planning and transportation* (english language) - Mario COOLS, Jacques TELLER - [1d FW]	Q1	26	26	[+]	**5**
UEEN0005-1	*Participatory Design at an Urban Scale* (english language) - Catherine ELSEN - [20h Proj., 1d FW]	Q1	20	10	[+]	**3**
UEEN0006-1	*UEE Integrated Project* (english language) - Luc COURARD - [100h Proj., 1d FW]	Q1	-	90	[+]	**6**

Bloc d'aménagement du programme de l'année

Bridging courses Master in civil engineering (120 credits)

Optional courses

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 :

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 - [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, Margaux GEUZAINE - [4d FW, 40h Proj.]	Q2	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**
MATH0504-1	*Applied mathematics* - Benjamin DEWALS, Christophe GEUZAINE	Q1	26	26	-	**5**

List of additional courses

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 - [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, Margaux GEUZAINE - [4d FW, 40h Proj.]	Q2	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**
MATH0504-1	*Applied mathematics* - Benjamin DEWALS, Christophe GEUZAINE	Q1	26	26	-	**5**