

## First Year

### Compulsory courses

CHIM0004-3	<i>Analytical chemistry</i> - Bernard GILBERT	30	30	-	5
GEOL0289-1	<i>Determinative mineralogy</i> - André-Mathieu FRANSOLET	20	20	-	3
GEOL0290-1	<i>Introduction to sedimentary petrology</i> - Frédéric BOULVAIN - [1d FW]	30	-	[+]	3
GEOL0279-1	<i>Geological mapping</i> - Hans-Balder HAVENITH - [4d FW]	20	20	[+]	5
GEOL0029-4	<i>Tectonics</i> - Olivier BOLLE - [2d FW]	15	15	[+]	3
GEOL0284-1	<i>Geology of Belgium (Région wallonne)</i> - Frédéric BOULVAIN - [6d FW]	20	-	[+]	3
GCIV0184-3	<i>Building Materials</i> - Luc COURARD	20	20	-	3
GCIV0185-3	<i>Numerical methods in Civil and Geological Engineering - I. Linear methods, Linear methods</i> - Vincent DENOËL, Michel PIROTON	30	30	-	5
GEOL0097-1	<i>Geostatistics</i> - Eric PIRARD	20	20	-	3
GEOL0260-2	<i>Applied geophysics</i> - Frédéric NGUYEN - [2d FW]	20	20	[+]	5
GEOL0023-4	<i>Engineering geology (integrated project) (Project)</i> - Frédéric NGUYEN - [2d FW]	10	30	[+]	5
GCIV0045-4	<i>Rock mechanics, tunnels, rock slopes, rock foundations</i> - Robert CHARLIER - [1d FW]	30	30	[+]	5
GEOL0083-3	<i>Groundwater Modelling</i> - Alain DASSARGUES	30	30	-	5
GEOL0237-2	<i>Exploiting deposits, quarries and mines</i> - N... - Suppl : Jacques TACK - [1d FW]	20	10	[+]	2
GCIV0090-2	<i>Free surface flow</i> - Michel PIROTON	15	10	-	2
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	3

Notice : Students who have, in their BAC studies, already taken one or more compulsory courses in this Master's programme are obliged to replace them by other courses in this Masters programme or courses in the programme of the Applied Sciences Faculty or of the Sciences Faculty ; this choice must be approved by the President of the cycle's Jury.

### Compulsory courses

GEOL0274-1	<i>Introduction to mineralogy, igneous and metamorphic petrology</i> - André-Mathieu FRANSOLET, Jacqueline VANDER AUWERA	30	30	-	4
GEOL0275-1	<i>Introduction to paleontology</i> - Emmanuelle JAVAUX	10	10	-	2
GEOL0021-7	<i>Geophysical exploration</i> - Lucien HALLEUX, Frédéric NGUYEN - [5d FW]	30	30	[+]	5
GEOL0020-5	<i>Mineral resources</i> - Eric PIRARD	20	10	-	3
GEOL0249-2	<i>Personal project work in documentary research</i> - Annick ANCEAU, Eric PIRARD	5	25	-	3
GEOL0013-5	<i>Hydrogeology</i> - Alain DASSARGUES - [1d FW]	30	30	[+]	5
GCIV0603-1	<i>Geotechnics</i> - Robert CHARLIER	30	30	-	5
META0431-2	<i>Mineral processing (processes)</i> - Stoyan GAYDARDZHIEV - [1d FW]	30	30	[+]	3
CHIM0004-3	<i>Analytical chemistry</i> - Bernard GILBERT	30	30	-	5
GEOL0289-1	<i>Determinative mineralogy</i> - André-Mathieu FRANSOLET	20	20	-	3
GEOL0290-1	<i>Introduction to sedimentary petrology</i> - Frédéric BOULVAIN - [1d FW]	30	-	[+]	3
GEOL0279-1	<i>Geological mapping</i> - Hans-Balder HAVENITH - [4d FW]	20	20	[+]	5
GEOL0023-4	<i>Engineering geology (integrated project) (Project)</i> - Frédéric NGUYEN - [2d FW]	10	30	[+]	5
GCIV0045-4	<i>Rock mechanics, tunnels, rock slopes, rock foundations</i> - Robert CHARLIER - [1d FW]	30	30	[+]	5
GEOL0237-2	<i>Exploiting deposits, quarries and mines</i> - N... - Suppl : Jacques TACK - [1d FW]	20	10	[+]	2
GCIV0090-2	<i>Free surface flow</i> - Michel PIROTON	15	10	-	2

### Compulsory courses

MATH0006-1	<i>Introduction to numerical analysis</i> - Quentin LOUVEAUX	30	30	-	5
MECA0001-1	<i>Solid mechanics (english)</i> - Serge CESCOTTO	30	30	-	5
MECA0011-1	<i>Fluid Mechanics: Basics</i> - Michel PIROTON	30	30	-	5
GEOL0021-7	<i>Geophysical exploration</i> - Lucien HALLEUX, Frédéric NGUYEN - [5d FW]	30	30	[+]	4
GEOL0020-3	<i>Mineral resources</i> - Eric PIRARD	20	20	-	3
GEOL0249-2	<i>Personal project work in documentary research</i> - Annick ANCEAU, Eric PIRARD	5	25	-	3
GCIV0603-1	<i>Geotechnics</i> - Robert CHARLIER	30	30	-	5
META0431-2	<i>Mineral processing (processes)</i> - Stoyan GAYDARDZHIEV - [1d FW]	30	30	[+]	5
BIOL0212-1	<i>Introduction to environmental microbiology</i> - Monique CARNOL	30	-	-	2
GCIV0184-3	<i>Building Materials</i> - Luc COURARD	20	20	-	3
GCIV0185-3	<i>Numerical methods in Civil and Geological Engineering - I. Linear methods, Linear methods</i> - Vincent DENOËL, Michel PIROTON	30	30	-	5

GEOL0097-1	<i>Geostatistics</i> - Eric PIRARD	20	20	-	<b>3</b>
GEOL0260-2	<i>Applied geophysics</i> - Frédéric NGUYEN - [2d FW]	20	20	[+]	<b>5</b>
GEOL0023-4	<i>Engineering geology (integrated project) (Project)</i> - Frédéric NGUYEN - [2d FW]	10	30	[+]	<b>5</b>
GCIV0045-4	<i>Rock mechanics, tunnels, rock slopes, rock foundations</i> - Robert CHARLIER - [1d FW]	30	30	[+]	<b>5</b>
GEOL0083-3	<i>Groundwater Modelling</i> - Alain DASSARGUES	30	30	-	<b>5</b>
GEOL0237-2	<i>Exploiting deposits, quarries and mines</i> - N... - Suppl : Jacques TACK - [1d FW]	20	10	[+]	<b>2</b>
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	<b>3</b>
GCIV0090-2	<i>Free surface flow</i> - Michel PIROTTON	15	10	-	<b>2</b>

## Second Year

### Compulsory courses

GEOL0234-3	<i>Modelling and inversion in geophysics</i> - Frédéric NGUYEN	20	20	-	<b>3</b>
GEOL0236-2	<i>Remote sensing and geological imaging</i> - COLLÉGIALITÉ, Eric PIRARD	30	30	-	<b>5</b>
GEOL0033-3	<i>Geology and Oil</i> - COLLÉGIALITÉ, Eric PIRARD - [1d FW]	30	-	[+]	<b>2</b>
ATFE0011-1	<i>Final Work (including an introduction to methodology and research)</i> - COLLÉGIALITÉ	-	-	-	<b>20</b>

Final year trip: at the beginning of the academic year, prior to the organisation of the courses, guided tours to companies, geological sites (optional).

### Compulsory courses

GCIV2058-1	<i>Environmental geotechnics</i> - Albert BOLLE, Robert CHARLIER, Jean-Marie RIGO - [1d FW]	20	20	[+]	<b>3</b>
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	<b>5</b>
GCIV0615-1	<i>Valorisation of industrial byproducts and waste in civil engineering</i> - Luc COURARD	20	20	-	<b>3</b>
GEOL0270-2	<i>Natural risk</i> - Hans-Balder HAVENITH - [1d FW]	15	15	[+]	<b>3</b>
GEOL0281-2	<i>Environmental aspects of industrial and mining activities</i> - Stoyan GAYDARDZHIEV	25	25	-	<b>4</b>
GEOL0282-1	<i>Sedimentary and environmental geochemistry</i> - Nathalie FAGEL	20	20	-	<b>3</b>
GEOL0283-1	<i>Multidisciplinary evaluation of mining projects</i> - Stoyan GAYDARDZHIEV	-	90	-	<b>5</b>
ASTG0017-1	<i>Placement</i> - COLLÉGIALITÉ	-	-	-	<b>4</b>

### Compulsory courses

GEOL0234-3	<i>Modelling and inversion in geophysics</i> - Frédéric NGUYEN	20	20	-	<b>3</b>
GEOL0236-2	<i>Remote sensing and geological imaging</i> - COLLÉGIALITÉ, Eric PIRARD	30	30	-	<b>5</b>
GEOL0033-3	<i>Geology and Oil</i> - COLLÉGIALITÉ, Eric PIRARD - [1d FW]	30	-	[+]	<b>2</b>
ATFE0011-1	<i>Final Work (including an introduction to methodology and research)</i> - COLLÉGIALITÉ	-	-	-	<b>20</b>

Final year trip: at the beginning of the academic year, prior to the organisation of the courses, guided tours to companies, geological sites (optional).

### Compulsory courses

GEOL0234-3	<i>Modelling and inversion in geophysics</i> - Frédéric NGUYEN	20	20	-	<b>3</b>
GEOL0236-2	<i>Remote sensing and geological imaging</i> - COLLÉGIALITÉ, Eric PIRARD	30	30	-	<b>5</b>
GEOL0033-3	<i>Geology and Oil</i> - COLLÉGIALITÉ, Eric PIRARD - [1d FW]	30	-	[+]	<b>2</b>
ATFE0011-1	<i>Final Work (including an introduction to methodology and research)</i> - COLLÉGIALITÉ	-	-	-	<b>20</b>

Final year trip: at the beginning of the academic year, prior to the organisation of the courses, guided tours to companies, geological sites (optional).

### Compulsory courses

GCIV2058-1	<i>Environmental geotechnics</i> - Albert BOLLE, Robert CHARLIER, Jean-Marie RIGO - [1d FW]	20	20	[+]	<b>3</b>
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	<b>5</b>
GEOL0280-1	<i>Recycling building materials</i> - Luc COURARD	20	20	-	<b>3</b>
GEOL0270-2	<i>Natural risk</i> - Hans-Balder HAVENITH - [1d FW]	15	15	[+]	<b>3</b>
GEOL0281-2	<i>Environmental aspects of industrial and mining activities</i> - Stoyan GAYDARDZHIEV	25	25	-	<b>4</b>
GEOL0282-1	<i>Sedimentary and environmental geochemistry</i> - Nathalie FAGEL	20	20	-	<b>3</b>
GEOL0283-1	<i>Multidisciplinary evaluation of mining projects</i> - Stoyan GAYDARDZHIEV	-	90	-	<b>5</b>
ASTG0017-1	<i>Placement</i> - COLLÉGIALITÉ	-	-	-	<b>4</b>

### Compulsory courses

GEOL0029-4	<i>Tectonics</i> - Olivier BOLLE - [2d FW]	15	15	[+]	<b>3</b>
GEOL0284-1	<i>Geology of Belgium (Région wallonne)</i> - Frédéric BOULVAIN - [6d FW]	20	-	[+]	<b>3</b>
GCIV0184-3	<i>Building Materials</i> - Luc COURARD	20	20	-	<b>3</b>
GCIV0185-3	<i>Numerical methods in Civil and Geological Engineering - I. Linear methods, Linear methods</i> - Vincent DENOËL, Michel PIROTON	30	30	-	<b>5</b>
GEOL0097-1	<i>Geostatistics</i> - Eric PIRARD	20	20	-	<b>3</b>
GEOL0260-2	<i>Applied geophysics</i> - Frédéric NGUYEN - [2d FW]	20	20	[+]	<b>5</b>
GEOL0083-3	<i>Groundwater Modelling</i> - Alain DASSARGUES	30	30	-	<b>5</b>
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	<b>3</b>