

Two-Year Master Program (120 ECTS)

First Year

Compulsory courses

CHIM0004-3	<i>Analytical chemistry</i> - Gauthier EPPE	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 HAVENTH - [4d FW]	20	20	[+]	5
GEOL0029-4	<i>Tectonics</i> - Olivier BOLLE - [2d FW]	15	15	[+]	3
GEOL0284-1	<i>Geology of Wallonia</i> - Frédéric BOULVAIN - [6d FW]	20	-	[+]	3
GCIV0184-4	<i>Building Materials</i> - Luc COURARD - [1d FW]	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)</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
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [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
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.

Second year

Compulsory courses

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

Optional courses

Choose one of the following courses :

GEOL0229-2	<i>Oil geology</i> - Pierre CORNET	20	20	-	2
GEOL0299-1	<i>Techniques of extraction of heavy oils</i> - Xavier LIMPENS	15	-	-	2

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

Choose one focus from the following :

Research Focus

Compulsory courses

GCIV2058-1	<i>Environmental geotechnics</i> - Albert BOLLE, Robert CHARLIER, Jean-Marie RIGO - [1d FW]	20	20	[+]	3
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	5
GCIV0615-2	<i>Valorisation of industrial byproducts and waste in civil engineering</i> - Luc COURARD - [1d FW]	20	20	[+]	3

GEOL0270-2	<i>Natural risk</i> - Hans-Balder HAVENITH - [1d FW]	15	15	[+]	3
GEOL0281-3	<i>Environmental aspects of industrial and mining activities</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	25	25	[+]	4
GEOL0282-1	<i>Sedimentary and environmental geochemistry</i> - Nathalie FAGEL	20	20	-	3
GEOL0283-1	<i>Multidisciplinary evaluation of mining projects</i> - Stoyan GAYDARDZHIEV	-	90	-	5
ASTG0017-1	<i>Placement</i> - COLLÉGIALITÉ	-	-	-	4

Professional focus in management

Compulsory courses

GEST3001-1	<i>People management and organisation</i> - Jocelyne ROBERT	24	24	-	4
GEST3002-1	<i>Human Resources</i> - Jocelyne ROBERT	24	-	-	2
GEST3003-1	<i>Competitive strategy in the marketplace</i> - Michael GHILISSEN	16	16	-	3
GEST3004-1	<i>Marketing (operations and management)</i> - Michael GHILISSEN	16	16	-	3
GEST3005-2	<i>Accountancy and Finance</i> - Jacques BERWART	24	24	-	4
GEST3006-1	<i>Operations and supply chain management I</i> - Yasemin ARDA - Suppl : Robert NONDONFAZ	16	16	-	3
GSTG3001-1	<i>Business plan</i> - COLLÉGIALITÉ	-	30	-	4
GSTG3002-1	<i>Functional analysis of a company</i> - COLLÉGIALITÉ - [30h Internship]	-	-	[+]	4

Optional courses

Choose one of the following courses :

GEST3010-1	<i>Operations and supply chain management II</i> - Sabine LIMBOURG	16	16	-	3
GEST3011-2	<i>ICT for Business</i> - Alain DUBOIS	16	16	-	3
GEST3012-1	<i>Financial and actuarial modelling</i> - Louis ESCH	16	16	-	3

Adjusted programme for student of the Bachelors in Civil Engineering who have not taken the " Geological Engineering" option

First Year

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> - Gauthier EPPE	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)</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 PIROTTON	15	10	-	2

Second year

Compulsory courses

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

Optional courses

Choose one of the following courses :

GEOL0229-2	<i>Oil geology</i> - Pierre CORNET	20	20	-	2
GEOL0299-1	<i>Techniques of extraction of heavy oils</i> - Xavier LIMPENS	15	-	-	2

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

Research Focus

Compulsory courses

GEOL0029-4	<i>Tectonics</i> - Olivier BOLLE - [2d FW]	15	15	[+]	3
GEOL0284-1	<i>Geology of Wallonia</i> - Frédéric BOULVAIN - [6d FW]	20	-	[+]	3
GCIV0184-4	<i>Building Materials</i> - Luc COURARD - [1d FW]	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
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	5
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	3

Adjusted programme for bachelors in geology Science

This programme is defined in relation with the BAC in geological sciences organised by the University of Liège's Faculty of Sciences.

It is likely to be greatly modified for students with a BAC in geological sciences from other institutions, in terms of the knowledge gained, and courses not taken, and the personal project, whilst remaining within the limits of 75+60 credits.

First Year

Compulsory courses

MATH0006-1	<i>Introduction to numerical analysis</i> - Quentin LOUVEAUX	30	30	-	5
MECA0001-1	<i>Solid mechanics</i> - Serge CESCOTTO - Suppl : Anne HABRAKEN	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
GCIV0184-4	<i>Building Materials</i> - Luc COURARD - [1d FW]	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)</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
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	5
GEOL0237-2	<i>Exploiting deposits, quarries and mines</i> - N... - Suppl : Jacques TACK - [1d FW]	20	10	[+]	2
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	3
GCIV0090-2	<i>Free surface flow</i> - Michel PIROTON	15	10	-	2

Second year

Compulsory courses

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

Optional courses

Choose one of the following courses :

GEOL0229-2	<i>Oil geology</i> - Pierre CORNET	20	20	-	2
GEOL0299-1	<i>Techniques of extraction of heavy oils</i> - Xavier LIMPENS	15	-	-	2

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

Research Focus

Compulsory courses

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

Adjusted programme for Bachelors in engineering sciences, bioengineering orientation

This programme is defined in relation with the Bachelor in Bioengineering organized by the Faculty of Gembloux Agro-Bio Tech of the ULg, by the Faculty of Sciences and Technology of the UCL and by the Faculty of Applied Sciences of the ULB. It is likely to be greatly modified in the Bachelor in Bioengineering from other institutions depending on their knowledge and courses not followed whilst remaining within the limits of 75-60 ECTS.

First Year

Compulsory courses

MATH0006-1	<i>Introduction to numerical analysis</i> - Quentin LOUVEAUX	30	30	-	5
GEOL0021-7	<i>Geophysical exploration</i> - Lucien HALLEUX, Frédéric NGUYEN - [5d FW]	30	30	[+]	4
MECA0001-1	<i>Solid mechanics</i> - Serge CESCOTTO - Suppl : Anne HABRAKEN	30	30	-	5
MECA0011-1	<i>Fluid Mechanics : Basics</i> - Michel PIROTON	30	30	-	5
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
GCIV0184-4	<i>Building Materials</i> - Luc COURARD - [1d FW]	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)</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
GEOL0277-1	<i>Soil and groundwater quality, protections and remediation</i> - Serge BROUYÈRE - [1d FW]	30	30	[+]	5
GEOL0237-2	<i>Exploiting deposits, quarries and mines</i> - N... - Suppl : Jacques TACK - [1d FW]	20	10	[+]	2
GEOL0276-4	<i>Solid waste processing</i> - Stoyan GAYDARDZHIEV - [1,5d FW]	20	20	[+]	3
GCIV0090-2	<i>Free surface flow</i> - Michel PIROTON	15	10	-	2

Second year

Compulsory courses

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

Choose one of the following courses :

GEOL0229-2	<i>Oil geology</i> - Pierre CORNET	20	20	-	2
GEOL0299-1	<i>Techniques of extraction of heavy oils</i> - Xavier LIMPENS	15	-	-	2

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

Research Focus

Compulsory courses

GCIV2058-1	<i>Environmental geotechnics</i> - Albert BOLLE, Robert CHARLIER, Jean-Marie RIGO - [1d FW]	20	20	[+]	3
GEOL0083-3	<i>Groundwater Modelling</i> - Alain DASSARGUES	30	30	-	5
GCIV0615-2	<i>Valorisation of industrial byproducts and waste in civil engineering</i> - Luc COURARD - [1d FW]	20	20	[+]	3
GEOL0270-2	<i>Natural risk</i> - Hans-Balder HAVENITH - [1d FW]	15	15	[+]	3
GEOL0281-2	<i>Environmental aspects of industrial and mining activities</i> - Stoyan GAYDARDZHIEV	25	25	-	4
GEOL0282-1	<i>Sedimentary and environmental geochemistry</i> - Nathalie FAGEL	20	20	-	3
GEOL0283-1	<i>Multidisciplinary evaluation of mining projects</i> - Stoyan GAYDARDZHIEV	-	90	-	5
ASTG0017-1	<i>Placement</i> - COLLÉGIALITÉ	-	-	-	4