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First Year

Compulsory courses

CHIM9272-2	<i>Chemistry 1</i> - Benoît HEINRICHS - [4h Labo.]	Q1	25	20	[+]	4
CHIM9273-1	<i>Chemistry 2</i> - Benoît HEINRICHS - [12h Labo.]	Q2	25	20	[+]	5
ECON0323-1	<i>First principles of economics</i> - Bernard JURION	Q1	30	-	-	3
INFO2009-2	<i>Introduction to computer science</i> - Benoît DONNET - [8h Labo.]	Q1	24	14	[+]	4
INFO0061-3	<i>Computers organization</i> - Bernard BOIGELOT	Q2	25	20	-	5
LANG0038-1	<i>English</i> - Christine FILOT, ISLV - [5h Proj.]	TA	20	60	[+]	5
MATH0001-2	<i>Graphic Communication</i> - Eric BÉCHET	Q1	20	20	-	4
MATH0002-4	<i>Mathematical analysis I</i> - Eric DELHEZ	Q1	24	24	-	5
MATH0502-1	<i>Mathematical Analysis 2</i> - Eric DELHEZ	Q2	20	22	-	4
MATH0003-1	<i>Geometry</i> - Pierre LECOMTE	Q2	25	15	-	4
MATH0013-1	<i>Algebra</i> - Eric DELHEZ	Q1	30	20	-	5
PHYS2020-1	<i>Physics 1 : Mechanics</i> - Hervé CAPS	Q1	20	20	-	4
PHYS2021-1	<i>Physics 2 : Electricity and electromagnetism</i> - Hervé CAPS	Q2	30	30	-	5
PROJ0001-1	<i>Introduction to numerical methods and project</i> - Olivier BRULS, Quentin LOUVEAUX, Frédéric NGUYEN - [2h Labo., 28h Proj.]	Q2	10	-	[+]	3

Engineering jobs and careers : compulsory seminars
A visit to a business

Notice : Compulsory business visits are organised so that students can better become acquainted with the engineering professions and to help them choose their options and Masters. They are not graded and thus have no ECTS value. However, student participation is a formal requirement.

Second Year

Compulsory courses

CHIM0286-1	<i>Rudiments of thermodynamics</i> - Benoît HEINRICHS	Q1	30	30	-	5
GENV0001-1	<i>Environmental Engineering</i> - Alain DASSARGUES, Benjamin DEWALS, Angélique LÉONARD - [30h Proj.]	Q1	30	-	[+]	4
LANG0039-2	<i>English 2</i> (english language) - Christine FILOT, ISLV - [20h Proj.]	TA	-	30	[+]	3
MATH0006-3	<i>Introduction to numerical analysis</i> (english language) - Quentin LOUVEAUX	Q1	20	20	-	4
MATH0007-4	<i>Mathematical analysis III</i> - Françoise BASTIN	Q1	30	30	-	5
MECA0001-2	<i>Mechanics of materials</i> - JeanPierre JASPART - Suppl : Laurent DUCHENE - [2h Labo., 12h Proj.]	Q1	30	28	[+]	5
MECA0003-2	<i>Rational Mechanics</i> - Eric DELHEZ	Q1	20	30	-	4
MECA0011-2	<i>Fluid Mechanics : Basics</i> - Michel PIROTTON - [25h Proj.]	Q2	20	30	[+]	4
PHYS2022-2	<i>Physics 3 : Waves and quanta</i> - Geoffroy LUMAY	Q2	20	10	-	3
MATH0062-1	<i>Elements of probability calculus</i> - Louis WEHENKEL - [25h Proj.]	Q2	15	10	[+]	3

A visit to a business

Optional courses

Choose two of the following options :

Notice : One will be your minor option. The other, linked to your 3rd year further study option, will be your major option. Minor / major combinations must be endorsed by the Jury.

Option Chemistry and Material Sciences

PHYS0904-4	<i>Physics of materials</i> - Jacqueline LECOMTEBECKERS - [1d FW]	Q2	30	30	[+]	5
CHIM0680-1	<i>Introduction to industrial processes</i> - MarieNoëlle DUMONT, Dominique TOYE - [5h Proj.]	Q2	10	10	[+]	2
CHIM0012-5	<i>Chemical kinetics</i> - Nathalie JOB - [15h Proj.]	Q2	20	15	[+]	3

Option Mechanics

MECA0445-2	<i>Heat transfer</i> - Pierre DEWALLEF, Vincent TERRAPON - [4h Labo., 9h Proj.]	Q2	30	26	[+]	5
MECA0012-6	<i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]	Q2	30	30	[+]	5

Option Physics

PHYS2026-2	<i>Physics 4 : Microscopic physics (part a : waves optics, part b : introduction to nuclear physics)</i> - Ngoc Duy NGUYEN - [15h Labo.]	Q2	30	15	[+]	5
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MECA0445-2	<i>Heat transfer</i> - Pierre DEWALLEF, Vincent TERRAPON - [4h Labo., 9h Proj.]	Q2	30	26	[+]	5
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Option Electricity and Electronics

ELEC0053-2	<i>Electric circuits</i> - Patricia ROUSSEAU	Q2	30	30	-	5
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ELEN0040-1	<i>Digital Electronics</i> - Michael KRAFT - Suppl : Patricia ROUSSEAU	Q2	30	30	-	5
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Option Computing

INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	5
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INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	5
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Option Building

GCIV0184-5	<i>Building Materials</i> - Luc COURARD - [0,5d FW, 12h Labo., 12h Proj.]	Q2	36	4	[+]	5
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MECA0012-6	<i>Solid mechanics</i> - Laurent DUCHENE - [15h Proj.]	Q2	30	30	[+]	5
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Option Geological Engineering

GEOL0001-1	<i>Geology and Geology for Engineers</i> - Alain DASSARGUES - [2d FW]	Q2	35	25	[+]	5
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GEOL0021-7	<i>Geophysical prospecting</i> - Lucien HALLEUX, Frédéric NGUYEN - [5d FW, 10h Proj.]	Q2	30	20	[+]	5
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Option Biomedical Engineering

GBIO0025-1	<i>General and cell biology</i> - Olivier PEULEN	Q2	30	30	-	5
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GBIO0026-1	<i>Systems physiology</i> - Philippe KOLH	Q2	30	30	-	5
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Option Architecture

ARCH0067-5	<i>Architectural History</i> - Catherine ELSÉN - [10h Proj.]	Q2	45	-	[+]	5
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GCIV2030-2	<i>Structural Design of Buildings</i> - JeanMarie BLEUS - [40h Proj.]	Q2	15	30	[+]	5
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Notice : Students who follow options which have one or more courses in common complete their programme by choosing one or more courses from BAC programme for Engineering Sciences - Civil Engineering or language courses organised by the Ulg in other education pathways. The resulting programme must equal 60 credits and be approved by the Jury.

Third Year

Compulsory courses

DROI0724-1	<i>Law and engineering</i> - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ, Bernard VANBRABANT - Suppl : Daisy CHICHOYAN, Déborah GOL, Cécile VERCHEVAL	Q1	30	-	-	2
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GENV0002-1	<i>Sustainable energy (english language)</i> - Pierre DEWALLEF, Damien ERNST, Christine FILOT, Nathalie JOB, Sigrid REITER - [20h Proj.]	Q2	30	8	[+]	3
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MATH0487-2	<i>Elements of statistics</i> - Louis WEHENKEL - [25h Proj.]	Q1	15	10	[+]	3
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SYST0002-2	<i>Modelling and analysis of systems</i> - Rodolphe SEPULCHRE - Suppl : Erik QUAEGBEUR - [15h Proj.]	Q1	30	30	[+]	5
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MATH0488-1	<i>Elements of stochastic processes</i> - Maarten ARNST, Vincent DENOËL, Pierre GEURTS, Louis WEHENKEL - [30h Proj.]	Q2	10	10	[+]	2
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Optional courses

The follow-up to the two options begun in the second year :

Option Chemistry and Material Sciences

CHIM0022-2	<i>Transport phenomena</i> (english language) - Andreas PFENNIG	Q2	30	30	-	5
CHIM0009-3	<i>Applied chemical thermodynamics</i> - Nathalie JOB - [10h Proj.]	Q1	20	15	[+]	3
CHIM0023-3	<i>Chemical Engineering (Reactor Study), étude des réacteurs I</i> - Dominique TOYE	Q1	20	15	-	3
CHIM0606-2	<i>Analytical Chemistry</i> - Gauthier EPPE	Q1	30	15	-	4

Option Mechanics

MECA0002-1	<i>Applied Thermodynamics and Introduction to Heat Engines</i> - Olivier LÉONARD	Q1	30	30	-	5
MECA0155-2	<i>Dynamics of Mechanical Systems</i> - JeanClaude GOLINVAL - [5h Labo., 10h Proj.]	Q1	30	30	[+]	5
PHYS0904-4	<i>Physics of materials</i> - Jacqueline LECOMTEBECKERS - [1d FW]	Q2	30	30	[+]	5

Option Physics

PHYS0211-3	<i>Quantum Mechanics</i> - John MARTIN	Q1	30	30	-	5
ELEN0076-1	<i>Electromagnetism</i> - Patricia ROUSSEAUX, Benoît VANDERHEYDEN	Q1	30	30	-	5
MECA0446-2	<i>Continuum Mechanics</i> - JeanPhilippe PONTHOT - [50h Proj.]	Q2	30	30	[+]	5

Option Electricity and Electronics

ELEC0052-2	<i>Analysis and Design of Electrical Measuring Systems</i> - Philippe VANDERBEMDEN - [24h Labo.]	Q1	30	6	[+]	5
ELEC0431-2	<i>Electromagnetic energy conversion</i> (english language) - Christophe GEUZAIN - [15h Labo.]	Q2	30	15	[+]	5
ELEN0076-1	<i>Electromagnetism</i> - Patricia ROUSSEAUX, Benoît VANDERHEYDEN	Q1	30	30	-	5

Option Computing

INFO0012-3	<i>Computation structures</i> (english language) - Pierre WOLPER - [50h Proj.]	Q1	30	25	[+]	5
INFO0004-2	<i>Object-oriented programming projects</i> (english language) - Laurent MATHY - [90h Proj.]	Q1	20	-	[+]	5
INFO0009-1	<i>Database (general organisation)</i> - Pierre WOLPER - [25h Proj.]	Q2	30	25	[+]	5

Option Building

GCIV0604-3	<i>Hydraulics</i> - Michel PIROTTON - [1d FW, 15h Proj.]	Q1	20	25	[+]	4
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Robert CHARLIER, JeanPol RADU - [0,5d FW, 2h Labo.]	Q2	26	26	[+]	5
GCIV0097-1	<i>Steel and concrete constructions</i> - JeanPierre JASPART, Boyan MIHAYLOV - [40h Proj.]	Q1	35	35	[+]	6

Option Geological Engineering

GEOL0020-7	<i>Mineral resources</i> (english language) - Eric PIRARD - [1d FW, 30h Labo., 32h Proj.]	Q1	30	-	[+]	5
GEOL0013-5	<i>Hydrogeology</i> - Alain DASSARGUES - [1d FW, 10h Proj.]	Q1	30	25	[+]	5
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Robert CHARLIER, JeanPol RADU - [0,5d FW, 2h Labo.]	Q2	26	26	[+]	5

Option Architecture

ARCH3264-1	<i>Introduction to the architectural composition I</i> - Catherine ELSSEN - [1d FW, 85h Proj.]	TA	-	90	[+]	7
ARCH0003-7	<i>Building construction techniques I, elements</i> - Shady ATTIA - [2,5d FW]	Q1	30	30	[+]	5
ARCH0069-1	<i>Project management I</i> - Shady ATTIA - [2,5d FW]	Q2	15	15	[+]	3

Option Biomedical Engineering

GBIO0002-1	<i>Genetics and bioinformatics</i> - Franck DEQUIEDT, Michel GEORGES, Kristel VAN STEEN	Q1	30	30	-	5
GBIO0013-1	<i>Transport phenomena in biology</i> - Dominique TOYE	Q1	30	30	-	5
GBIO0005-1	<i>Introduction to cognitive neurosciences</i> - Pierre LEPRINCE, Gilles VANDEWALLE	Q2	30	30	-	5

Choose one advanced study option out of the following :

Option Chemistry and Material Sciences, further study

	<u>Prerequisite</u>	"Option Chimie et science des matériaux"						
CHIM0063-2	<i>General principles of biology and biochemistry</i> - Paulette CHARLIER		Q2	10	10	-		2
CHIM0604-2	<i>Chemistry and organic materials</i> - Lionel DELAUDE		Q2	30	30	-		5
CHIM0605-2	<i>Chemistry and inorganic materials</i> - Bénédicte VERTRUYEN		Q2	30	-	-		3
CHIM0681-1	<i>Combined Chemistry Laboratories</i> - Lionel DELAUDE, Gauthier EPPE, Bénédicte VERTRUYEN - [120h Labo.]		Q2	-	-		[+]	5

Option Mechanics (Advanced Study)

	<u>Prerequisite</u>	"Option Mécanique"						
MECA0018-2	<i>Industrial Forming Processes</i> - JeanFrançois DEBONGNIE - [15h Labo., 0,5d FW, 11h Proj.]		Q2	30	-		[+]	5
MECA0025-3	<i>Fluid Mechanics</i> - Eric DELHEZ - [30h Proj.]		Q2	30	30		[+]	5
MECA0036-2	<i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT - [40h Proj.]		Q2	30	30		[+]	5

Option Physics (Advanced Study)

	<u>Prerequisite</u>	"Option Physique"						
MECA0009-2	<i>Introduction to microtechnology</i> (english language) - Tristan GILET - [12h Labo., 18h Proj.]		Q2	14	16		[+]	5
PHYS0055-1	<i>Introduction to Condensed Matter Physics</i> - Matthieu VERSTRAETE		Q2	30	30	-		5
MECA0025-3	<i>Fluid Mechanics</i> - Eric DELHEZ - [30h Proj.]		Q2	30	30		[+]	5

Option Electricity and Electronics (Advanced Study)

	<u>Prerequisite</u>	"Option Electricité et électronique"						
ELEN0070-2	<i>Signal processing</i> (english language) - Jacques VERLY - [40h Proj.]		Q2	45	15		[+]	5
ELEN0075-3	<i>Analog Electronics</i> - Benoît VANDERHEYDEN - [16h Labo.]		Q2	30	24		[+]	5
ELEN0008-1	<i>Principles of analog and digital telecommunications systems</i> - Marc VAN DROOGENBROECK		Q2	30	30	-		5

Option Computing (Advanced Study)

	<u>Prerequisite</u>	"Option Informatique"						
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT - [15h Proj.]		Q2	30	25		[+]	5
INFO0010-4	<i>Introduction to computer networking</i> (english language) - Guy LEDUC - [40h Proj.]		Q2	35	15		[+]	5
INFO0940-1	<i>Operating systems</i> (english language) - Laurent MATHY - [80h Proj.]		Q2	30	6		[+]	5

Option Building (Advanced Study)

	<u>Prerequisite</u>	"Option Constructions"						
GCIV0607-2	<i>Structural mechanics</i> - JeanMarc FRANSSSEN		Q2	35	35	-		6
GCIV0608-1	<i>Integrated building project</i> - Frédéric COLLIN, JeanFrançois DEMONCEAU, JeanMarc FRANSSSEN, JeanPierre JASPART, Boyan MIHAYLOV, Michel PIROTON		Q2	-	60	-		3

Notice : If the president of the cycle's panel agrees, in particular regarding the technical content, the integrated project can be part of an interdisciplinary project (e.g. project engineer, etc.).

GEOL0001-3	<i>Geology and Geology for Engineers</i> - Alain DASSARGUES - [1d FW]		Q2	25	25		[+]	4
GCIV0623-2	<i>Experimental geotechnics</i> - Frédéric COLLIN - [10h Labo.]		Q2	10	-		[+]	2

Option Advanced Studies in Geological Engineering

	<u>Prerequisite</u>	"Option Génie géologique"						
META0431-3	<i>Mineral processing (processes)</i> - Stoyan GAYDARDZHIEV - [1d FW, 30h Labo., 10h Proj.]		Q2	30	-		[+]	5

GEOL1026-1	<i>Complement of geology</i>	Q2				5
	- 1st part : <i>elements of mineralogy</i> - Frédéric HATERT	20	20	-		
	- 2nd part : <i>Elements of Magmatic and metamorphic petrology</i> - Jacqueline VANDER AUWERA	10	10	-		
GEOL1032-1	<i>Geocomputing and geocommunication</i> - Annick ANCEAU, Serge BROUYÈRE, Eric PIRARD - [20h Labo., 120h Proj.]	Q2	10	-	[+]	5

Biomedical engineering option, in-depth approach

	<u>Prerequisite</u>	"Option Génie biomédical"				
GBIO0021-1	<i>Laboratory project</i> - Thomas DESAIVE, Liesbet GERIS	Q2	-	60	-	5
GBIO0020-1	<i>Physiology</i> - Philippe KOLH, Olivier PEULEN	Q1	30	30	-	5
GBIO0011-1	<i>Modeling of biological systems</i> - Pierre DAUBY, Liesbet GERIS	Q2	30	30	-	5

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Particularly, students can choose between the two courses below, that are specific to engineers.

- * LANG1957-1 *Dutch Engineering* (Mrs C. COLIN, 60h, 5 ECTS)
- * LANG1958-1 *Germand Engineering* (Mrs F. CARL, 60 h, 5 ECTS)

The resulting programme must total at least 60 ECTS and must be approved by the cycle's Jury President.