

First Year

Compulsory courses

CHIM0603-1	<i>Chemistry</i> - Benoît HEINRICHS - [15h Labo.]	50	40	[+]	9
ECON0323-1	<i>First principles of economics</i> - Bernard JURION	30	-	-	3
INFO2009-1	<i>Introduction to computer science</i> - Benoît DONNET	25	20	-	4
INFO0061-3	<i>Computers organization</i> - Bernard BOIGELOT	25	20	-	5
LANG0038-1	<i>English</i> - Christine FILOT, ISLV	60	-	-	5
MATH0001-2	<i>Graphic Communication</i> - Eric BÉCHET	20	20	-	4
MATH0002-3	<i>Mathematical Analysis I</i> - Eric DELHEZ	50	40	-	9
MATH0003-1	<i>Geometry</i> - Pierre LECOMTE	25	15	-	4
MATH0013-1	<i>Algebra</i> - Eric DELHEZ	30	20	-	5
PHYS2020-1	<i>Physics 1 : Mechanics</i> - Hervé CAPS	20	20	-	4
PHYS2021-1	<i>Physics 2 : Electricity and electromagnetism</i> - Hervé CAPS	30	30	-	5
PROJ0001-1	<i>Introduction to numerical methods and project</i> - Olivier BRULS, Quentin LOUVEAUX, Frédéric NGUYEN	10	30	-	3

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

Notice : Compulsory business visits envisaged for the 2nd semester in 1st BAC and the 1st semester of BAC 2 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.

Second year

Compulsory courses

CHIM0286-1	<i>Rudiments of thermodynamics</i> - Benoît HEINRICHS	30	30	-	5
GENV0001-1	<i>Environmental Engineering</i> - Alain DASSARGUES, Benjamin DEWALS, Angélique LÉONARD	30	-	-	4
LANG0039-2	<i>English 2 (english language)</i> - Christine FILOT, ISLV	30	-	-	3
MATH0006-3	<i>Introduction to numerical analysis</i> - Quentin LOUVEAUX	20	20	-	4
MATH0007-4	<i>Mathematical analysis II</i> - Françoise BASTIN	30	30	-	5
MECA0001-1	<i>Mechanics of materials</i> - JeanPierre JASPART	30	30	-	5
MECA0003-2	<i>Rational Mechanics</i> - Eric DELHEZ	20	30	-	4
MECA0011-2	<i>Fluid Mechanics : Basics</i> - Michel PIROTTON	20	30	-	4
PHYS2022-2	<i>Physics 3 : Waves and quanta</i> - Geoffroy LUMAY	20	10	-	3
MATH0062-1	<i>Elements of probability calculus</i> - Kristel VAN STEEN, Louis WEHENKEL	15	15	-	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]	30	30	[+]	5
CHIM0680-1	<i>Introduction to industrial processes</i> - Dominique TOYE	10	15	-	2
CHIM0012-3	<i>Chemical Kinetics</i> - JeanPaul PIRARD	20	15	-	3

Option Mechanics

MECA0445-1	<i>Heat transfer</i> - Michel HOGGE	30	30	-	5
MECA0012-5	<i>Solid mechanics</i> - Laurent DUCHENE	30	30	-	5

Option Physics

PHYS2026-1	<i>Physics 4 : Microscopic physics (partime a : waves optics, partime b : introduction to nuclear physics)</i> - Ngoc Duy NGUYEN	30	30	-	5
MECA0445-1	<i>Heat transfer</i> - Michel HOGGE	30	30	-	5

Option Electricity and Electronics

ELEC0053-2	<i>Electric circuits</i> - Patricia ROUSSEAU	30	30	-	5
ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5

Option Computing

INFO0902-1	<i>Data structures and algorithms</i> - Pierre GEURTS	30	30	-	5
INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT	30	30	-	5

Option Building

GCIV0184-5	<i>Building Materials</i> - Luc COURARD - [1d FW]	30	30	[+]	5
MECA0012-5	<i>Solid mechanics</i> - Laurent DUCHENE	30	30	-	5

Option Geological Engineering

GEOL0001-1	<i>Geology and Geology for Engineers</i> - Alain DASSARGUES - [2d FW]	35	25	[+]	5
GEOL0021-7	<i>Geophysical exploration</i> - Lucien HALLEUX, Frédéric NGUYEN - [5d FW]	30	30	[+]	5

Option Biomedical Engineering

BIOC0002-1	<i>Biochemistry</i> - Paulette CHARLIER	30	30	-	5
GBIO0001-1	<i>Biophysics (english language)</i> - Liesbet GERIS	30	30	-	5

Option Architecture

ARCH0067-5	<i>Architecture history</i> - N... - Suppl : Michel PRÉGARDIEN, Jacques TELLER	45	-	-	5
GCIV2030-2	<i>Structural Design of Buildings</i> - JeanMarie BLEUS	15	30	-	5

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 - Suppl : Daisy CHICHOYAN, Déborah GOL, Bernard VANBRABANT, Cécile VERCHEVAL	30	-	-	2
GENV0002-1	<i>Sustainable energy (english language)</i> - Pierre DEWALLEF, Damien ERNST, Christine FILOT, Nathalie JOB, Sigrid REITER	30	-	-	3
MATH0487-1	<i>Elements of statistics (english language)</i> - Kristel VAN STEEN, Louis WEHENKEL	15	15	-	3
SYST0002-1	<i>Linear systems</i> - Rodolphe SEPULCHRE	30	30	-	5
MATH0488-1	<i>Elements of stochastic processes</i> - Maarten ARNST, Vincent DENOËL, Pierre GEURTS, Louis WEHENKEL	10	20	-	2

Optional courses

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

Option Chemistry and Material Sciences

CHIM0022-2	<i>Introduction to Chemical Engineering</i> - Michel CRINE	30	30	-	5
CHIM0009-2	<i>Applied chemical thermodynamics</i> - Georges HEYEN	20	15	-	3
CHIM0023-3	<i>Chemical Engineering (Reactor Study)</i> - Dominique TOYE	20	15	-	3
CHIM0606-2	<i>Analytical Chemistry</i> - Gauthier EPPE	30	15	-	4

Option Mechanics

MECA0445-1	<i>Heat transfer</i> - Michel HOGGE	30	30	-	5
MECA0155-1	<i>Dynamics of Mechanical Systems</i> - JeanClaude GOLINVAL	30	30	-	5
PHYS0904-4	<i>Physics of materials</i> - Jacqueline LECOMTEBECKERS - [1d FW]	30	30	[+]	5

Option Physics

PHYS0211-3	<i>Quantum Mechanics</i> - John MARTIN	30	30	-	5
ELEN0076-1	<i>Electromagnetism</i> - Patricia ROUSSEAU, Benoît VANDERHEYDEN	30	30	-	5
MECA0445-1	<i>Heat transfer</i> - Michel HOGGE	30	30	-	5

Option Electricity and Electronics

ELEC0052-1	<i>Analysis and Design of Electrical Measuring Systems</i> - Philippe VANDERBEMDEN	30	30	-	5
ELEC0431-1	<i>Electromagnetic energy transformation</i> - Christophe GEUZAINÉ	30	30	-	5
ELEN0076-1	<i>Electromagnetism</i> - Patricia ROUSSEAU, Benoît VANDERHEYDEN	30	30	-	5

Option Computing

INFO0012-1	<i>Computation structures (english language)</i> - Pierre WOLPER	30	30	-	5
INFO0030-5	<i>Programming Projects</i> - Benoît DONNET	6	20	-	2
INFO0004-1	<i>Object-oriented programming projects II (english language)</i> - Laurent MATHY	8	30	-	3
INFO0940-1	<i>Operating systems (english language)</i> - Laurent MATHY	30	30	-	5

Option Building

GCIV0604-2	<i>Hydraulics</i> - Michel PIROTON	20	20	-	4
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Robert CHARLIER, JeanPol RADU - [1d FW]	30	30	[+]	5
GCIV0097-1	<i>Steel and concrete constructions</i> - JeanPierre JASPART, Boyan MIHAYLOV - Suppl : François KAISER	35	35	-	6

Option Geological Engineering

GEOL0020-7	<i>Mineral resources</i> - Eric PIRARD - [1d FW]	30	30	[+]	5
GEOL0013-5	<i>Hydrogeology</i> - Alain DASSARGUES - [1d FW]	30	30	[+]	5
GCIV0603-2	<i>Geotechnics and infrastructure</i> - Robert CHARLIER, JeanPol RADU - [1d FW]	30	30	[+]	5

Option Architecture

ARCH0070-1	<i>Workshops in architecture I</i> - Jacques TELLER	-	90	-	7
ARCH0003-4	<i>Method of construction of buildings I (Part I)</i> - N... - Suppl : Mauro BACCARINI - [2,5d FW]	30	30	[+]	5
ARCH0069-1	<i>Project management I</i> - N... - Suppl : Pierre LECLERCQ, Dimitri SCHMITZ - [2,5d FW]	15	15	[+]	3

Option Biomedical Engineering

GBIO0002-1	<i>Genetics and molecular biology</i> - Michel GEORGES, N... - Suppl : Marc MULLER	30	30	-	5
GBIO0020-1	<i>Physiology</i> - Philippe KOLH, Olivier PEULEN	30	30	-	5
GBIO0005-1	<i>Introduction to neurosciences</i> - Shibeshih BELACHEW, Pierre MAQUET - Suppl : Pierre LEPRINCE, Gilles VANDEWALLE	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	10	10	-	2
CHIM0604-2	<i>Chemistry and organic materials</i> - Lionel DELAUDE	30	30	-	5
CHIM0605-2	<i>Chemistry and inorganic materials</i> - Bénédicte VERTRUYEN	30	-	-	3
CHIM0681-1	<i>Combined Chemistry Laboratories</i> - COLLÉGIALITÉ	-	120	-	5

Option Mechanics (Advanced Study)

	<u>Prerequisite</u>	"Option Mécanique"			
MECA0018-1	<i>Industrial Forming Processes</i> - JeanFrançois DEBONGNIE	30	30	-	5

MECA0025-1	<i>Fluid Mechanics</i> - Eric DELHEZ	30	30	-	5
MECA0036-1	<i>Finite Element Method</i> (english language) - JeanPhilippe PONTHOT	30	30	-	5

Option Physics (Advanced Study)

	<u>Prerequisite</u>	"Option Physique"			
MECA0446-1	<i>Continuum Mechanics</i> - JeanPhilippe PONTHOT	30	30	-	5
PHYS0055-1	<i>Introduction to Condensed Matter Physics</i> - Matthieu VERSTRAETE	30	30	-	5
MECA0025-1	<i>Fluid Mechanics</i> - Eric DELHEZ	30	30	-	5

Option Electricity and Electronics (Advanced Study)

	<u>Prerequisite</u>	"Option Electricité et électronique"			
ELEN0070-1	<i>Signal Processing</i> - Jacques VERLY	30	30	-	5
ELEN0075-1	<i>Analog Electronics</i> - Benoît VANDERHEYDEN	30	30	-	5
ELEN0008-1	<i>Principles of analog and digital telecommunications systems</i> - Marc VAN DROOGENBROECK	30	30	-	5

Option Computing (Advanced Study)

	<u>Prerequisite</u>	"Option Informatique"			
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT	30	30	-	5
INFO0010-1	<i>Introduction to computer networking</i> (english language) - Guy LEDUC	30	30	-	5
ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5

Option Building (Advanced Study)

	<u>Prerequisite</u>	"Option Constructions"			
GCIV0607-1	<i>Structural mechanics</i> - JeanMarc FRANSEN	30	30	-	5
GCIV0608-1	<i>Integrated building projet</i> - Frédéric COLLIN, JeanMarc FRANSEN, JeanPierre JASPART, Boyan MIHAYLOV, Michel PIROTTON	-	60	-	3
GEOL0001-1	<i>Geology and Geology for Engineers</i> - Alain DASSARGUES - [2d FW]	35	25	[+]	5
GCIV0623-2	<i>Experimental geotechnics</i> - Frédéric COLLIN, Séverine LEVASSEUR	10	10	-	2

Option Advanced Studies in Geological Engineering

	<u>Prerequisite</u>	"Option Génie géologique"			
META0431-2	<i>Mineral processing (processes)</i> - Stoyan GAYDARDZHIEV - [1d FW]	30	30	[+]	5
BIOL0212-1	<i>Introduction to environmental microbiology</i> - Monique CARNOL - Suppl : Olivier GUILLITTE	30	-	-	2
GEOL1026-1	<i>Complement of geology</i> - 1st part : <i>elements of mineralogy</i> - Frédéric HATERT - 2nd part : <i>Elements of Magmatic and metamorphic petrology</i> - Jacqueline VANDER AUWERA	20	20	-	5
GEOL0249-2	<i>Personal project work in documentary research</i> - Annick ANCEAU, Eric PIRARD	5	25	-	3

Biomedical engineering option, in-depth approach

	<u>Prerequisite</u>	"Option Génie biomédical"			
GBIO0021-1	<i>Practical work in biomedical engineering</i> - Eric BULLINGER, Liesbet GERIS	-	60	-	5

One of the following courses :

ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5
MECA0012-5	<i>Solid mechanics</i> - Laurent DUCHENE	30	30	-	5
PHYS0904-4	<i>Physics of materials</i> - Jacqueline LECOMTEBECKERS - [1d FW]	30	30	[+]	5

One of the following courses :

INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT	30	30	-	5
MECA0009-1	<i>Introduction to microtechnologies</i> (english language) - Tristan GILET	30	30	-	5

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* 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.