Université de Liège

Study programmes 2009-2010
Faculty of Applied Sciences
Bachelor in engineering sciences, civil engineer orientation

First Year

Compulsory courses

CHIM0603-1	*Chemistry* - Benoît HEINRICHS - [15h Labo.]	50	40	[+]	**9**
ECON0323-1	*First principles of economics* - Bernard JURION	30	-	-	**3**
INFO2008-2	*Computer science* - Bernard BOIGELOT, N... - Suppl : Justus PIATER	45	45	-	**9**
LANG0038-1	*English* - Christine FILOT, ISLV	60	-	-	**5**
MATH0001-2	*Graphic Communication* - Eric BÉCHET	20	20	-	**4**
MATH0002-3	*Mathematical Analysis I* - Eric DELHEZ	50	40	-	**9**
MATH0003-1	*Geometry* - Pierre LECOMTE	25	15	-	**4**
MATH0013-1	*Algebra* - Eric DELHEZ	30	20	-	**5**
PHYS2020-1	*Physics 1: Mechanics* - Hervé CAPS	20	20	-	**4**
PHYS2021-1	*Physics 2: Electricity and electromagnetism* - Hervé CAPS	30	30	-	**5**
PROJ0001-1	*Introduction to numerical methods and project* - Olivier BRULS, Quentin LOUVEAUX, Frédéric NGUYEN	10	30	-	**3**

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

Notice : Compulsory buiness visits envisaged for the 2nd smester in 1st BAC and the Ist semester of BAC 2 are organised so that students can better become acquainted with the engineering professions and to help them choose thire options and Masters. They are not graded and thus have no ECTS value.

Second year

Compulsory courses

CHIM0286-1	*Rudiments of thermodynamics* - Benoît HEINRICHS	30	30	-	**5**
GENV0001-1	*Environmental Engineering* - Alain DASSARGUES, Benjamin J. DEWALS, Angélique LÉONARD, Michel PIROTTON	30	-	-	**2**
LANG0039-2	*English 2* - Christine FILOT, ISLV	30	-	-	**2**
MATH0006-2	*Introduction to numerical analysis* - Quentin LOUVEAUX	25	15	-	**3**
MATH0007-4	*Mathematical analysis II* - Françoise BASTIN	30	30	-	**5**
MECA0001-1	*Solid mechanics* (english) - Serge CESCOTTO	30	30	-	**5**
MECA0003-1	*Rational Mechanics* - Eric DELHEZ	30	30	-	**5**
MECA0011-1	*Fluid Mechanics: Basics* - Michel PIROTTON	30	30	-	**5**
SYST0002-1	*Linear systems* - Rodolphe SEPULCHRE	30	30	-	**5**
PHYS2022-1	*Physics 3: Waves and quanta* - Laurent DREESEN	20	20	-	**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

CHIM0080-2	*Energy carriers and sustainable development* - Angélique LÉONARD - Suppl : Georges HEYEN	20	10	-	**3**
CHIM0604-1	*Chemistry and organic materials* - Christophe DETREMBLEUR	30	60	-	**7**

Option Mechanics

MECA0002-1	*Applied Thermodynamics and Introduction to Heat Engines* - Olivier LÉONARD	30	30	-	**5**
MECA0012-5	*Mechanics of materials* (english) - Serge CESCOTTO	30	30	-	**5**

Option Physics

PHYS2026-1	*Physics 4 : Microscopic physics (partime a : waves optics, partime b : introduction to nuclear physics)* - Laurent DREESEN	30	30	-	**5**
MECA0012-5	*Mechanics of materials* (english) - Serge CESCOTTO	30	30	-	**5**

Option Electricity and Electronics

ELEC0053-2	*Electric circuits* - Patricia ROUSSEAUX	30	30	-	**5**
ELEN0075-1	*Analog Electronics* - Benoît VANDERHEYDEN	30	30	-	**5**

Option Computing

INFO0902-1	*Data structures and algorithms* (english) - Justus PIATER	30	30	-	**5**
INFO0062-1	*Object-Oriented Programming* - Bernard BOIGELOT	30	30	-	**5**

Option Building

GCIV0184-2	*Building Materials* - Luc COURARD	30	30	-	**5**
MECA0012-5	*Mechanics of materials* (english) - Serge CESCOTTO	30	30	-	**5**

Option Geological Engineering

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

Option Biomedical Engineering

BIOC0002-1	*Biochemistry* - Paulette CHARLIER	30	30	-	**5**
GBIO0001-1	*Introduction to Biomedical Engineering* - Kristel VAN STEEN	30	30	-	**5**

Option Architecture

ARCH0067-5	*Architecture and Urban Design History I* - Jean-Claude CORNESSE	45	-	-	**5**
GCIV2030-2	*Structural Design of Buildings* - Thibaut BROGNEAUX, Jean-Claude CORNESSE	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

GEST0105-1	*Elements of Management: Social Aspects* - Annie CORNET	20	-	-	**2**
MATH0008-2	*Introduction to probability and statistical analysis* - Tri-An BANH, Kristel VAN STEEN	15	15	-	**3**

Optional courses

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

Option Chemistry and Material Sciences

CHIM0022-2	*Introduction to Chemical Engineering* - Michel CRINE	30	30	-	**5**
CHIM0009-1	*Applied chemical thermodynamics* - Georges HEYEN	30	30	-	**5**
CHIM0012-2	*Chemical Kinetics* - Jean-Paul PIRARD	30	30	-	**5**
CHIM0605-1	*Chemistry and inorganic materials* - Rudi CLOOTS	30	30	-	**5**

Option Mechanics

MECA0018-1	*Industrial Forming Processes* - Jean-François DEBONGNIE	30	30	-	**5**
MECA0445-1	*Transfers of heat and matter* - Michel HOGGE	30	30	-	**5**
MECA0155-1	*Dynamics of Mechanical Systems* - Jean-Claude GOLINVAL	30	30	-	**5**
MECA0036-1	*Finite Element Method* - Jean-Philippe PONTHOT	30	30	-	**5**

Option Physics

MECA0025-1	*Fluid Mechanics* - Eric DELHEZ	30	30	-	**5**
PHYS0211-3	*Quantum Mechanics* - Joseph CUGNON	30	30	-	**5**
ELEN0076-1	*Electromagnetism* - Patricia ROUSSEAUX, Benoît VANDERHEYDEN	30	30	-	**5**
MECA0012-5	*Mechanics of materials* (english) - Serge CESCOTTO	30	30	-	**5**

Option Electricity and Electronics

ELEN0040-1	*Digital Electronics* - Jacques DESTINÉ	30	30	-	**5**
ELEC0052-1	*Analysis and Design of Electrical Measuring Systems* - Philippe VANDERBEMDEN	30	30	-	**5**
ELEC0431-1	*Electromagnetic energy transformation* - Christophe GEUZAINE	30	30	-	**5**
ELEN0008-1	*Principles of analog and digital telecommunications systems* - Marc VAN DROOGENBROECK	30	30	-	**5**

Option Computing

ELEN0040-1	*Digital Electronics* - Jacques DESTINÉ	30	30	-	**5**
INFO0012-1	*Computation Structures* - Pierre WOLPER	30	30	-	**5**
INFO0010-1	*Introduction to Computer Networks* - Guy LEDUC	30	30	-	**5**
INFO0064-1	*Embedded Systems* - Bernard BOIGELOT	30	30	-	**5**

Option Building

MECA0442-1	*Mechanics of materials II* - Serge CESCOTTO	15	15	-	**2**
GCIV0604-1	*Hydraulics* - Michel PIROTTON	15	15	-	**3**
GCIV0607-1	*Structural mechanics* - Jean-Marc FRANSSEN	30	30	-	**5**
GCIV0603-1	*Geotechnics* - Robert CHARLIER	30	30	-	**5**
GCIV0097-1	*Steel and concrete constructions I* - Jean-Claude DOTREPPE, Jean-Pierre JASPART	30	30	-	**5**

Option Geological Engineering

GEOL0020-5	*Mineral resources* - Eric PIRARD	20	10	-	**3**
GEOL0013-5	*Hydrogeology* - Alain DASSARGUES - [1d FW]	30	30	[+]	**5**
GEOL0253-2	*Spatial analysis of geo-environmental data* - Eric PIRARD	20	20	-	**3**
GEOL0274-1	*Introduction to mineralogy, igneous and metamorphic petrology* - André-Mathieu FRANSOLET, Jacqueline VANDER AUWERA	30	30	-	**4**
GEOL0275-1	*Introduction to paleontology* - Emmanuelle JAVAUX	10	10	-	**2**
GEOL0249-2	*Personal project work in documentary research* - Annick ANCEAU, Eric PIRARD	5	25	-	**3**

Option Architecture

ARCH0070-1	*Workshops in architecture* - Pierre LECLERCQ	-	90	-	**8**
ARCH0071-2	*Architecture and Urban Design History II* - Jean-Claude CORNESSE	45	-	-	**4**
ARCH0003-4	*Method of construction of buildings I (Partim 1)* - N... - Suppl : Mauro BACCARINI - [2,5d FW]	30	30	[+]	**5**
ARCH0069-1	*Project management I* - N... - Suppl : Pierre LECLERCQ, Dimitri SCHMITZ - [2,5d FW]	15	15	[+]	**3**

Option Biomedical Engineering

GBIO0002-1	*Genetics and molecular biology* - Michel GEORGES, Joseph MARTIAL	30	30	-	**5**
GBIO0003-1	*Molecular and cellular physiology* - Olivier PEULEN	30	30	-	**5**
GBIO0004-1	*Physiology of the systems* - Philippe KOLH	30	30	-	**5**
GBIO0005-1	*Introduction to neurosciences* - Shibeshih BELACHEW, Pierre MAQUET	30	30	-	**5**

Choose one advanced study option out of the following :

Option Chemistry and Material Sciences (Advanced Study)

	Prerequisite "Option Chimie et sciences des matériaux"				
CHIM0606-1	*Analytical Chemistry* - Bernard GILBERT	30	60	-	**6**
MECA0014-3	*Introduction to Hydraulic machines and Compressors* - Olivier LÉONARD	15	15	-	**3**
PHYS0904-2	*Physics of materials (partim)* - Jacqueline LECOMTE#BECKERS	20	10	-	**3**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL	30	-	-	**3**

Option Mechanics (Advanced Study)

	Prerequisite	"Option Mécanique"				
MECA0444-1	*Mechanical design* - Jean-François DEBONGNIE		30	30	-	**5**
PHYS0904-1	*Physics of materials* - Jacqueline LECOMTE#BECKERS		30	30	-	**5**
ELEN0061-2	*Introduction to Stochastic Processes* - Louis WEHENKEL		15	15	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**

Option Physics (Advanced Study)

	Prerequisite	"Option Physique"				
MECA0446-1	*Continuum Mechanics* - Jean-Philippe PONTHOT		30	30	-	**5**
ELEN0061-2	*Introduction to Stochastic Processes* - Louis WEHENKEL		15	15	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**
PHYS0055-1	*Introduction to Condensed Matter Physics* - Jean-Pierre GASPARD		30	30	-	**5**

Option Electricity and Electronics (Advanced Study)

	Prerequisite	"Option Electricité et électronique"				
ELEN0070-1	*Signal Processing* - Jacques VERLY		30	30	-	**5**
ELEN0076-1	*Electromagnetism* - Patricia ROUSSEAUX, Benoît VANDERHEYDEN		30	30	-	**5**
ELEN0061-2	*Introduction to Stochastic Processes* - Louis WEHENKEL		15	15	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**

Option Computing (Advanced Study)

	Prerequisite	"Option Informatique"				
INFO0054-1	*Functional programming* - Pascal GRIBOMONT		30	30	-	**5**
ELEN0008-1	*Principles of analog and digital telecommunications systems* - Marc VAN DROOGENBROECK		30	30	-	**5**
ELEN0061-2	*Introduction to Stochastic Processes* - Louis WEHENKEL		15	15	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**

Option Building (Advanced Study)

	Prerequisite	"Option Constructions"				
GCIV0099-1	*Steel and concrete constructions II* - Jean-Claude DOTREPPE, Jean-Pierre JASPART		30	30	-	**5**
GCIV0608-1	*Integrated building projet* - Robert CHARLIER, Jean-Marc FRANSSEN, Jean-Pierre JASPART, Michel PIROTTON		-	60	-	**4**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**
GCIV0044-1	*Land Transport Infrastructure Gauging* - Albert BOLLE		20	10	-	**3**

Option Advanced Studies in Geological Engineering

	Prerequisite	"Option Génie géologique"				
GCIV0603-1	*Geotechnics* - Robert CHARLIER		30	30	-	**5**
META0431-2	*Mineral processing (processes)* - Stoyan GAYDARDZHIEV - [1d FW]		30	30	[+]	**5**
BIOL0212-1	*Introduction to environmental microbiology* - Monique CARNOL		30	-	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**

Option Advanced Biomedical Science

	Prerequisite	"Option Génie biomédical"				
ELEN0061-2	*Introduction to Stochastic Processes* - Louis WEHENKEL		15	15	-	**2**
DROI0724-1	*law and engineering* - Christine BIQUET, Jacques CLESSE, Pascale LECOCQ - Suppl : Déborah GOL, Aurélie KETTELS, Bernard VANBRABANT, Cécile VERCHEVAL		30	-	-	**3**
[...]	Two supplementary courses to be chosen among courses of the Bachelor's degree					

listed as optional courses for the first year of the Master's degree in Biomedical civil Engineering. Thise choose must meet with the approval of the President of the jury.

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.