

## First Year

### Compulsory courses

CHIM0603-1	<i>Chemistry</i> - Edwin DE PAUW, José MARIEN	60	30	-	<b>9</b>
ECON0323-1	<i>First principles of economics</i> - Bernard JURION	30	-	-	<b>3</b>
LANG0038-1	<i>English</i> - Christine FILOT, ISLV	60	-	-	<b>5</b>
INFO0001-1	<i>Introduction to Algorithmics I</i> - Pierre-Arnoul DE MARNEFFE	30	30	-	<b>5</b>
INFO0061-2	<i>Computers and operating systems</i> - Bernard BOIGELOT	30	30	-	<b>5</b>
MATH0001-1	<i>Graphic Communication</i> - Pierre BECKERS	30	30	-	<b>5</b>
MATH0002-3	<i>Mathematical Analysis</i> - Eric DELHEZ	50	40	-	<b>9</b>
MATH0003-1	<i>Geometry</i> - Pierre LECOMTE	25	15	-	<b>4</b>
MATH0013-1	<i>Algebra</i> - Eric DELHEZ	30	20	-	<b>5</b>
PHYS0067-1	<i>Physics : Mechanics - Electricity</i> - Hervé CAPS, Yves LION	60	60	-	<b>10</b>
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> - Edwin DE PAUW, José MARIEN	30	30	-	<b>5</b>
GENV0001-1	<i>Environmental Engineering</i> - Alain DASSARGUES, Benjamin J. DEWALS, Albert GERMAIN, Michel PIROTON	30	-	-	<b>2,5</b>
LANG0039-2	<i>English 2</i> - Christine FILOT, ISLV	30	-	-	<b>2,5</b>
MATH0006-1	<i>Introduction à l'analyse numérique</i> - Quentin LOUVEAUX	30	30	-	<b>5</b>
MATH0007-4	<i>Mathematical analysis II</i> - Françoise BASTIN	30	30	-	<b>5</b>
MECA0001-1	<i>Solid mechanics (english)</i> - Serge CESCOTTO	30	30	-	<b>5</b>
MECA0003-1	<i>Rational Mechanics</i> - Eric DELHEZ	30	30	-	<b>5</b>
MECA0011-1	<i>Fluid Mechanics: Basics</i> - André LEJEUNE	30	30	-	<b>5</b>
SYST0002-1	<i>Linear systems</i> - Rodolphe SEPULCHRE	30	30	-	<b>5</b>
A visit to a business					

### Optional courses

**Choose two of the following options :**

*Notice* : One will be your minor option. The other, linked to the third year advanced study option, will be your major option. The minor / major option combinations must be approved by the Board of Studies.

#### Option Chemistry and Material Sciences

CHIM0080-1	<i>Energy carriers and sustainable development</i> - Albert GERMAIN	30	-	-	<b>3</b>
CHIM0604-1	<i>Chemistry and organic materials</i> - Christophe DETREMBLEUR	30	60	-	<b>7</b>

#### Option Mechanics

MECA0002-1	<i>Applied Thermodynamics and Introduction to Heat Engines</i> - Jean LEBRUN	30	30	-	<b>5</b>
MECA0012-5	<i>Mechanics of materials (english)</i> - Serge CESCOTTO	30	30	-	<b>5</b>

#### Option Physics

PHYS0057-1	<i>Wave optics and wave mechanics</i> - Thierry BASTIN, Yves LION	30	30	-	<b>5</b>
MECA0445-1	<i>Transfers of heat and matter</i> - Michel HOGGE	30	30	-	<b>5</b>

#### Option Electricity and Electronics

ELEC0053-2	<i>Electric circuits</i> - Patricia ROUSSEAU	30	30	-	5
ELEN0075-1	<i>Analog Electronics</i> - Benoît VANDERHEYDEN	30	30	-	5

#### Option Computing

INFO0902-1	<i>Data Structures and Algorithms</i> - Justus PIATER	30	30	-	5
INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT	30	30	-	5

#### Option Building

GCIV0184-2	<i>Building Materials</i> - Luc COURARD	30	30	-	5
MECA0012-5	<i>Mechanics of materials (english)</i> - Serge CESCOTTO	30	30	-	5

#### Option Génie géologique

GEOL0001-1	<i>Geology and Geology for Engineers</i> - Alain DASSARGUES - [2d FW]	35	25	[+]	5
GEOL0021-7	<i>Applied Geophysics</i> - Frédéric NGUYEN - [5d FW]	30	30	[+]	5

#### Option Biomedical Engineering

BIOC0002-1	<i>Biochemistry</i> - Jean-Marie FRÈRE	30	30	-	5
GBIO0001-1	<i>Introduction to Biomedical Engineering</i> - Jacques DESTINÉ, Kristel VAN STEEN	30	30	-	5

#### Option Architecture

ARCH0067-1	<i>History of Architecture and Town Planning I</i> - Jean-Claude CORNESSE	60	-	-	5
ARCH0003-4	<i>Method of construction of buildings I (1re partie)</i> - N... - Suppl : Jean-Marie HAUGLUSTAINE - [2,5d FW]	30	30	[+]	5

*Notice : Students who follow options by splitting one or more courses will complete their programme by choosing one or more course equalling the same number of credits. This choice must be approved by the President of the Borad of Studies.*

## Third Year

#### Compulsory courses

GEST0105-1	<i>Elements of Management: Social Aspects</i> - Annie CORNET	20	-	-	2
MATH0008-2	<i>Probablity and Statistics</i> - Tri-An BANH	15	15	-	3

#### 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
CHIM0009-1	<i>Applied chemical thermodynamics</i> - Georges HEYEN	30	30	-	5
CHIM0012-2	<i>Chemical Kinetics</i> - Jean-Paul PIRARD	30	30	-	5
CHIM0605-1	<i>Chemistry and inorganic materials</i> - Rudi CLOOTS	30	30	-	5

#### Option Mechanics

MECA0018-1	<i>Industrial Forming Processes</i> - Jean-François DEBONGNIE	30	30	-	5
MECA0445-2	<i>Transfers of heat and matter</i> - Michel HOGGE	30	15	-	4
MECA0155-1	<i>Dynamics of Mechanical Systems</i> - Jean-Claude GOLINVAL	30	30	-	5
MECA0443-1	<i>CAO / Finite element methods</i> - Pierre BECKERS, Jean-Philippe PONTHOT	45	30	-	6

#### Option Physics

MECA0025-1	<i>Fluid Mechanics</i> - Jean-André ESSERS	30	30	-	5
PHYS0211-3	<i>Quantum Mechanics</i> - Joseph CUGNON	30	30	-	5
ELEN0076-1	<i>Electromagnetism</i> - Benoît VANDERHEYDEN	30	30	-	5
MECA0012-5	<i>Mechanics of materials (english)</i> - Serge CESCOTTO	30	30	-	5

#### Option Electricity and Electronics

ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5
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
ELEN0008-1	<i>Principles of analog and digital telecommunications systems</i> - Marc VAN DROOGENBROECK	30	30	-	5

**Option Computing**

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

**Option Building**

MECA0442-1	<i>Mechanics of materials II</i> - Serge CESCOTTO	15	15	-	2
GCIV0604-1	<i>Hydraulics</i> - André LEJEUNE	15	15	-	3
GCIV0607-1	<i>Mechanics of the structures</i> - Jean-Marc FRANSSSEN	30	30	-	5
GCIV0603-1	<i>Geotechnics</i> - Robert CHARLIER	30	30	-	5
GCIV0097-1	<i>Steel and concrete constructions I</i> - Jean-Claude DOTREPPE, Jean-Pierre JASPART	30	30	-	5

**Option Génie Géologique**

GEOL0020-5	<i>Mineral resources</i> - Eric PIRARD	20	10	-	3
GEOL0013-5	<i>Hydrogeology</i> - Alain DASSARGUES - [1d FW]	30	30	[+]	5
GEOL0253-2	(pas organisé en 2007-2008) <i>Spatial analysis of geo-environmental data</i>	20	20	-	3
GEOL0021-9	<i>Applied Geophysics</i> - Frédéric NGUYEN - [5d FW]	20	20	[+]	3
GEOL0274-1	<i>Eléments de minéralogie et de pétrologie magmatique et métamorphique</i> - André-Mathieu FRANSOLETT, Jacqueline VANDER AUWERA	30	30	-	4
GEOL0275-1	<i>Introduction to paleontology</i> - Emmanuelle JAVAUX	10	10	-	2
GEOL0249-2	<i>Personal project work in documentary research</i> - Annick ANCEAU, Eric PIRARD	5	25	-	3

**Option Architecture**

ARCH0070-1	<i>Workshops in architecture</i> - N...	-	90	-	7
ARCH0007-1	<i>History of Architecture and Town Planning II</i> - Jean-Claude CORNESSE	30	-	-	4
ARCH0009-3	<i>Building techniques II</i> - Jean-Marie HAUGLUSTAINÉ - [2,5d FW]	30	60	[+]	7
ARCH0069-1	<i>Project management</i> - N... - Suppl : Jean-Marie HAUGLUSTAINÉ - [2d FW]	15	15	[+]	2

**Option Biomedical Engineering**

GBIO0002-1	<i>Genetics and molecular biology</i> - Michel GEORGES, Joseph MARTIAL	30	30	-	5
GBIO0003-1	<i>Molecular and cellular physiology</i> - Pierre ROBE	30	30	-	5
GBIO0004-1	<i>Physiology of the systems</i> - Jean-Olivier DEFRAIGNE	30	30	-	5
GBIO0005-1	<i>Introduction to neurosciences</i> - Shibeshih BELACHEW, Pierre MAQUET	30	30	-	5

Choose one advanced study option out of the following :

**Option Chemistry and Material Sciences (Advanced Study)**

	<u>Prerequisite</u>	"Option Chimie et sciences des matériaux"			
CHIM0606-1	<i>Analytical Chemistry</i> - Bernard GILBERT	30	60	-	6
MECA0014-3	<i>Introduction to Hydraulic machines and Compressors</i> - Olivier LÉONARD	15	15	-	3
PHYS0904-2	<i>Physics of materials (partim)</i> - Jean-Pierre COHEUR, Jean-Marie LIÉGEOIS	20	10	-	3
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

**Option Mechanics (Advanced Study)**

MECA0444-1	<i>Mechanical design</i> - Jean-François DEBONGNIE	30	30	-	5
PHYS0904-1	<i>Physics of materials</i> - Jean-Pierre COHEUR, Jean-Marie LIÉGEOIS	30	30	-	5
ELEN0061-2	<i>Introduction to Stochastic Processes</i> - Louis WEHENKEL	15	15	-	2
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

**Option Physics (Advanced Study)**

<u>Prerequisite</u>		"Option Physique"			
MECA0446-1	<i>Mechanics of the continuous media</i> - Jean-Philippe PONTHOT	30	30	-	5
ELEN0061-2	<i>Introduction to Stochastic Processes</i> - Louis WEHENKEL	15	15	-	2
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3
PHYS0055-1	<i>Introduction to Condensed Matter Physics</i> - Jean-Pierre GASPARD	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
ELEN0076-1	<i>Electromagnetism</i> - Benoît VANDERHEYDEN	30	30	-	5
ELEN0061-2	<i>Introduction to Stochastic Processes</i> - Louis WEHENKEL	15	15	-	2
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

**Option Computing (Advanced Study)**

INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT	30	30	-	5
ELEN0008-1	<i>Principles of analog and digital telecommunications systems</i> - Marc VAN DROOGENBROECK	30	30	-	5
ELEN0061-2	<i>Introduction to Stochastic Processes</i> - Louis WEHENKEL	15	15	-	2
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

**Option Building (Advanced Study)**

GCIV0609-1	<i>Experimental geotechnics</i> - Albert BOLLE	15	15	-	3
GCIV0099-1	<i>Steel and concrete constructions II</i> - Jean-Claude DOTREPPE, Jean-Pierre JASPART	30	30	-	5
GCIV0608-1	<i>Integrated project</i> - Robert CHARLIER, Jean-Claude DOTREPPE, Jean-Marc FRANSSSEN, Jean-Pierre JASPART, André LEJEUNE	-	60	-	4
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

**Option Génie Géologique, approfondissement**

<u>Prerequisite</u>		"Option Génie géologique"			
GCIV0603-1	<i>Geotechnics</i> - Robert CHARLIER	30	30	-	5
META0431-2	<i>Mineral engineering (processes)</i> - Stoyan GAYDARDZHIEV - [1d FW]	30	30	[+]	5
BIOL0212-1	<i>Introduction to environmental microbiology</i> - Monique CARNOL	30	-	-	2
DROI0724-1	<i>law and engineering</i> - Pascale LECOCQ	30	-	-	3

Notice : Les étudiants qui suivent des options partageant un (ou plusieurs) cours complètent leur programme en choisissant un (ou plusieurs) cours totalisant le même nombre de crédits; ce choix doit recevoir l'accord du président du Jury.