

## First Year

### Compulsory courses

SYST0003-1	<i>Linear control systems</i> (english language) - Eric BULLINGER, Rodolphe SEPULCHRE	30	30	-	5
INFO0009-1	<i>Introduction to Data Bases</i> - Pierre WOLPER	30	30	-	5
INFO0085-1	<i>Compilers</i> - Xavier BOYEN	30	30	-	5
INFO0063-1	<i>Object-Oriented Software Engineering</i> - Bernard BOIGELOT	30	30	-	5
INFO0016-1	<i>Introduction to the theory of computation</i> (english language) - Pierre WOLPER	30	30	-	5
MATH0461-1	<i>Introduction to numerical optimization</i> (english language) - Quentin LOUVEAUX	30	30	-	5
INFO0051-1	<i>Artificial Intelligence Logics</i> - Pascal GRIBOMONT	30	30	-	5
INFO0045-2	<i>Cryptography and Computer Security</i> - Xavier BOYEN	30	30	-	5
INFO0030-4	<i>Programming Projects - N...</i> - Suppl : Pascal GRIBOMONT	10	20	-	2
INFO0004-1	<i>Object-oriented programming project - N...</i> - Suppl : Guy LEDUC	10	30	-	3
INFO0031-1	<i>Computer network architectures and multimedia</i> (english language) - Guy LEDUC	30	30	-	5
ELEN0060-1	<i>Information and Coding Theory</i> - Louis WEHENKEL, Louis WEHENKEL	30	30	-	5

### Optional courses

Choose 1 of the three courses, not taken during the BAC programme, amongst :

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
ELEN0070-1	<i>Signal Processing</i> - Jacques VERLY	30	30	-	5

*Notice* : Students who have already followed one or several compulsory course(s) from the Bachelor programme have to replace it (them) by one or several course(s) from the optional courses of this master or from the courses'programme of the Faculty ; this choice must be approved by the cycle's Jury President. Ditto if students have already followed all the optional courses from above.

### Students studying for the Bachelors in Civil Engineering who have not chosen the appropriate option :

- \* must take all the so-called "prerequisite" courses hereafter, if they were not taken during the 1st cycle. These courses must be taken during the 1st year of the masters and some 1st-year compulsory courses must be rolled over to the 2nd year.
- \* must subsequently reduce the number of courses they choose to take in the 2nd year of the masters. If all the "prerequisite" courses must be taken, it will be impossible for them to choose which courses they take.
- \* cannot choose the professional "management" focus.

The adapted programme for these students must first gain be approved by the Jury.

### Compulsory prerequisites

ELEN0040-1	<i>Digital Electronics</i> - Jacques DESTINÉ	30	30	-	5
INFO0010-1	<i>Introduction to Computer Networks</i> - Guy LEDUC	30	30	-	5
INFO0012-1	<i>Computation Structures</i> - Pierre WOLPER	30	30	-	5
INFO0054-1	<i>Functional programming</i> - Pascal GRIBOMONT	30	30	-	5
INFO0062-1	<i>Object-Oriented Programming</i> - Bernard BOIGELOT	30	30	-	5
INFO0064-1	<i>Embedded Systems</i> - Bernard BOIGELOT	30	30	-	5
INFO0902-1	<i>Data structures and algorithms - N...</i> - Suppl : Sébastien COLLETTE	30	30	-	5

## Second Year

### Compulsory courses

ATFE0015-1	<i>Final Work (including an introduction to methodology and research)</i> - COLLÉGIALITÉ -	-	-	-	25
[...]	A general course to be chosen from the University's programmes of courses ; this choice must be approved by the cycle's President of the Jury				

### Optional courses

Choose courses totalling 30 ECTS out of the following :

INFO2036-1	<i>Design and analysis of algorithms</i> (english language)	30	30	-	<b>5</b>
ELEN0017-1	<i>Analysis and Design of Telecommunications Systems</i> - Marc VAN DROOGENBROECK	30	30	-	<b>5</b>
ELEN0062-1	<i>Applied Inductive Learning</i> - Pierre GEURTS, Louis WEHENKEL	30	30	-	<b>5</b>
GBIO0009-1	<i>Bioinformatics</i> (english language) - Kristel VAN STEEN	30	30	-	<b>5</b>
GBIO0010-1	<i>Bioinstrumentation</i> - Jacques DESTINÉ	30	30	-	<b>5</b>
ELEN0018-1	<i>Electroacoustics</i> - Jean-Jacques EMBRECHTS	30	30	-	<b>5</b>
INFO0056-1	<i>Managing and securing computer networks</i> (english language) - Guy LEDUC	30	30	-	<b>5</b>
GBIO0008-1	<i>Medical imaging</i> - Christophe PHILLIPS	30	30	-	<b>5</b>
ELEN0002-1	<i>Introduction to Audio and Video Techniques</i> - Jean-Jacques EMBRECHTS	30	30	-	<b>5</b>
ELEN0037-1	<i>Microelectronics. Analysis and CAD of integrated circuits</i> - Jacques DESTINÉ	30	30	-	<b>5</b>
ELEN0038-1	<i>Microsystems</i> - Jacques DESTINÉ	30	30	-	<b>5</b>
GBIO0011-1	<i>Biological systems modeling</i> - Pierre DAUBY, Rodolphe SEPULCHRE	30	30	-	<b>5</b>
INFO0939-1	<i>High performance scientific computing</i> (english language) - Christophe GEUZAINÉ	30	30	-	<b>5</b>
MATH0462-1	<i>Discrete optimization</i> - Quentin LOUVEAUX	30	30	-	<b>5</b>
INFO0049-1	<i>Knowledge Representation</i> - Pascal GRIBOMONT	30	30	-	<b>5</b>
INFO0065-1	<i>Seminar on Intrusion Systems</i> - Marc DACIER	10	50	-	<b>5</b>
INFO0050-1	<i>Constrained programming</i> - Pascal GRIBOMONT	30	30	-	<b>5</b>
SYST0017-1	<i>Non linear systems</i> - Rodolphe SEPULCHRE	30	30	-	<b>5</b>
ELEN0019-1	<i>Treatment of the audio signals : principles and experiments</i> - Jean-Jacques EMBRECHTS	30	30	-	<b>5</b>
ELEN0016-1	<i>Digital Image Processing</i> - Marc VAN DROOGENBROECK	30	30	-	<b>5</b>
ELEN0071-1	<i>Digital Signal Processing</i> - Jacques VERLY	30	30	-	<b>5</b>
ELEN0072-1	<i>Statistical Signal Processing</i> - Jacques VERLY	30	30	-	<b>5</b>
INFO0060-1	<i>Concurrent System Verification and Temporal Logic</i> - Bernard BOIGELOT, Pascal GRIBOMONT, Pierre WOLPER	30	30	-	<b>5</b>
INFO0013-1	(pas organisé en 2010-2011) <i>Computer vision</i> (english language)	30	30	-	<b>5</b>
ELEN0442-1	<i>Introduction to statistical training</i> - Pierre GEURTS, Louis WEHENKEL	30	30	-	<b>5</b>
INFO0027-2	<i>Programming techniques</i> - Xavier BOYEN	30	30	-	<b>5</b>
INFO2044-1	<i>Mathematical cryptography</i> - Xavier BOYEN	30	30	-	<b>5</b>
INFO2046-1	<i>Computational Geometry</i> - Eric BÉCHET	30	30	-	<b>5</b>
ASTG0020-1	<i>Placement</i> - COLLÉGIALITÉ	-	-	-	<b>10</b>

*Notice* : Students who have, in their BAC studies, already taken one or more option courses found in this list must not take them again.