

Course to be intended in order to obtain de Master's degree in computer science and engineering.

#### Compulsory courses (B1 : 40Cr)

INFO0016-1	<i>Introduction to the theory of computation</i> (english language) - Quentin LOUVEAUX	B1	Q1	26	26	-	5
ELEN0062-1	<i>Introduction to machine learning</i> (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	B1	Q1	30	5	[+]	5
INFO0940-1	<i>Operating systems</i> (english language) - Laurent MATHY - [30h Proj.]	B1	Q2	30	6	[+]	5
PROJ0010-1	<i>Software project engineering and management</i> (english language) - Benoît DONNET, Bernard HAUZEUR, Guy LEDUC, Laurent MATHY - [280h Proj.]	B1	TA	20	-	[+]	10
PROJ0019-1	<i>End of studies project</i> (english language) - Laurent MATHY - [300h Proj.]	B1	TA	-	-	[+]	10
INFO0012-2	<i>Computation structures</i> (english language) - Pascal FONTAINE, Laurent MATHY - [40h Proj.]	B1	Q1	26	26	[+]	5

The following three courses are in addition to the above-mentioned programme. These courses may be followed as part of the Bachelor or Masters in Business Engineering programme, or be added to the third year of the Masters programme.

MATH0006-3	<i>Introduction to numerical analysis</i> (english language) - Quentin LOUVEAUX	B1	Q1	20	20	-	4
MECA0003-2	<i>Rational Mechanics</i> - Eric DELHEZ	B1	Q1	20	30	-	4
SYST0002-2	<i>Introduction to signals and systems</i> - Guillaume DRION - [15h Proj.]	B1	Q1	26	26	[+]	5

#### Optional courses (B1 : 30Cr)

Choose one focus from the following : (B1 : 30Cr)

##### Professional focus: "Computer systems security" (B1 : 30Cr)

INFO0031-1	<i>Network Engineering</i> (english language) - Benoît DONNET, Guy LEDUC - [12h Labo., 30h Proj.]	B1	Q2	30	-	[+]	5
INFO0045-3	<i>Introduction to computer security</i> (english language) - Benoît DONNET - [10h Labo., 30h Proj.]	B1	Q1	30	6	[+]	5

Choose courses totalling 20 credits out of the following : (B1 : 20Cr)

INFO0064-2	<i>Embedded systems</i> (english language) - Bernard BOIGELOT	B1	Q1	25	20	-	3
INFO2055-1	<i>Embedded systems project</i> (english language) - Bernard BOIGELOT - [60h Proj.]	B1	Q2	-	-	[+]	2
INFO2051-1	<i>Object-oriented programming on mobile devices</i> (english language) - Laurent MATHY - [90h Proj.]	B1	Q1	15	10	[+]	5
INFO0056-1	<i>Securing Networks</i> (english language) - Guy LEDUC - [12h Labo., 30h Proj.] (Even years)	B1	Q2	30	-	[+]	5
INFO0939-1	<i>High performance scientific computing</i> (english language) - Christophe GEUZAIN - [20h Proj.]	B1	Q1	30	15	[+]	5
INFO8002-1	<i>Topics in Distributed Systems</i> (english language) - Bernard BOIGELOT, Christophe DEBRUYNE, Pascal FONTAINE, Guy LEDUC, Laurent MATHY - [35h Proj.] (Odd years)	B1	Q2	30	-	[+]	5
INFO8012-1	<i>Digital Forensics</i> (english language) - Benoît DONNET, Laurent MATHY - [12h Labo., 30h Proj.] (Even years)	B1	Q2	30	-	[+]	5
INFO8011-1	<i>Network infrastructures</i> (english language) - Benoît DONNET, Guy LEDUC, Laurent MATHY - [8h Labo., 30h Proj.]	B1	Q1	30	-	[+]	5

### Master of Science (MSc) in Computer Science and Engineering (double degree programme with HEC)

INFO8013-1 *Advanced Computer Security* (english language) - Benoît DONNET, Laurent MATHY - [20h Labo., 30h Proj.] (Odd years) B1 Q2 20 - [+] 5

INFO9016-1 *Advanced Databases* (english language) - Christophe DEBRUYNE - [20h Proj.] B1 Q2 24 20 [+] 5

#### Professional focus: "Intelligent systems" (B1 : 30Cr)

INFO8010-1 *Deep learning* (english language) - Gilles LOUPPE - [60h Proj.] B1 Q2 30 - [+] 5

SYST0022-1 *Linear Systems Design* (english language) - Guillaume DRION, Pierre SACRÉ - [15h Proj.] B1 Q2 26 26 [+] 5

Choose courses totalling 20 credits out of the following : (B1 : 20Cr)

ELEN0016-2 *Computer vision* (english language) - Marc VAN DROOGENBROECK - [50h Proj.] B1 Q1 30 10 [+] 5

INFO0948-2 *Introduction to intelligent robotics* (english language) - Pierre SACRÉ - [80h Proj.] B1 Q2 30 4 [+] 5

INFO2049-1 *Web and Text Analytics* (english language) - Ashwin ITTOO B1 Q1 30 - - 5

GBIO0002-1 *Genetics and bioinformatics* (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.] B1 Q1 30 15 [+] 5

DROI1357-1 *European law, (big) data and artificial intelligence applications seminar* (english language) - - Suppl : Ljupcho GROZDANOVSKI B1 Q1 24 - - 5

INFO8003-1 *Optimal decision making for complex problems* (english language) - Damien ERNST - [45h Proj.] B1 Q2 25 10 [+] 5

INFO8004-1 *Advanced Machine learning* (english language) - Pierre GEURTS, Gilles LOUPPE, Louis WEHENKEL - [20h Proj.] B1 Q2 25 - [+] 5

INFO9014-1 *Knowledge representation and reasoning* (english language) - Christophe DEBRUYNE - [45h Proj.] B1 Q2 24 20 [+] 5

INFO8006-1 *Introduction to artificial intelligence* (english language) - Gilles LOUPPE - [45h Proj.] B1 Q1 25 20 [+] 5