Block view of the study programme

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Block 1

Depending on your track record or your professional/research focus, some prerequisites/corequisites of your first year program might appear in bloc 2. You are therefore invited to go through the list of courses suggested in bloc 2 even if you enroll for the first time in this master program.

Compulsory Courses

INFO0085-1	*Compilers* (english language) - Pascal FONTAINE - [75h Proj.] **Corequisite :** INFO0016-1 - Introduction to the theory of computation INFO0902-1 - Structures des données et algorithmes INFO0012-2 - Computation structures INFO0940-1 - Operating systems	Q2	25	-	[+]	**5**
ELEN0062-1	*Introduction to machine learning* (english language) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	**5**
INFO0016-1	*Introduction to the theory of computation* (english language) - Quentin LOUVEAUX	Q1	26	26	-	**5**
ELEN0060-2	*Information and coding theory* (english language) - Louis WEHENKEL - [30h Proj.]	Q2	30	15	[+]	**5**
PROJ0010-1	*Software project engineering and management* (english language) - Benoît DONNET, Bernard HAUZEUR, Guy LEDUC, Laurent MATHY - [280h Proj.] **Prerequisite :** INFO0062-1 - Object-oriented programming **Corequisite :** INFO0010-4 - Introduction to computer networking	TA	20	-	[+]	**10**
GEST3162-1	*Principles of management* (english language) - François PICHAULT, Willem STANDAERT - [25h Proj.]	Q1	30	-	[+]	**5**

Optional courses

Choose one focus among the three below :

Professional focus on "Computer systems security"

Students choosing this focus shall select, in addition to 10 credits of compulsory courses, 50 credits of elective courses inside or outside the focus. However, for his/her whole master program (block 1 and block 2), a total of 20 credits of options must be taken inside the focus. The regulation allows students to choose elective courses during the block of their choice, in accordance with the prerequisites and co-requisites. Students must also be attentive to schedule constraints.

Compulsory Courses

INFO0031-1	*Network Engineering* (english language) - Benoît DONNET, Guy LEDUC - [12h Labo., 30h Proj.] **Corequisite :** INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO0045-3	*Introduction to computer security* (english language) - Benoît DONNET - [10h Labo., 30h Proj.] **Corequisite :** INFO0902-1 - Structures des données et algorithmes INFO0010-4 - Introduction to computer networking	Q1	30	6	[+]	**5**

Choose 5 credits in the following list :

INFO0064-2	*Embedded systems* (english language) - Bernard BOIGELOT	Q1	25	20	-	**3**
INFO2055-1	*Embedded systems project* (english language) - Bernard BOIGELOT - [60h Proj.]	Q2	-	-	[+]	**2**

Corequisite :
INFO0064-2 - Embedded systems

INFO2051-1	*Object-oriented programming on mobile devices* (english language) - Laurent MATHY - [90h Proj.]	Q1	15	10	[+]	**5**
INFO0056-1	*Securing Networks* (english language) - Guy LEDUC - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0045-3 - Introduction to computer security INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO0939-1	*High performance scientific computing* (english language) - Christophe GEUZAINE - [20h Proj.]	Q1	30	15	[+]	**5**
INFO8002-1	*Topics in Distributed Systems* (english language) - Bernard BOIGELOT, Christophe DEBRUYNE, Pascal FONTAINE, Guy LEDUC, Laurent MATHY - [35h Proj.] (Odd years)	Q2	30	-	[+]	**5**
INFO8012-1	*Digital Forensics* (english language) - Benoît DONNET, Laurent MATHY - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0940-1 - Operating systems INFO0085-1 - Compilers INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO8011-1	*Network infrastructures* (english language) - Benoît DONNET, Guy LEDUC, Laurent MATHY - [8h Labo., 30h Proj.] **Corequisite :** INFO0010-4 - Introduction to computer networking	Q1	30	-	[+]	**5**
INFO8013-1	*Advanced Computer Security* (english language) - Benoît DONNET, Laurent MATHY - [20h Labo., 30h Proj.] (Odd years) **Corequisite :** INFO0045-3 - Introduction to computer security	Q2	20	-	[+]	**5**
INFO9016-1	*Advanced Databases* (english language) - Christophe DEBRUYNE - [20h Proj.]	Q2	24	20	[+]	**5**

Professional focus on "Intelligent Systems"

Students choosing this focus shall select, in addition to 5 credits of compulsory courses, 55 credits of elective courses inside oroutside the focus. However, for his/her whole master program (block 1 and block 2), a total of 25 credits of options must be taken inside the focus. The regulation allows students to choose elective courses during the block of their choice, in accordance with the prerequisites and co-requisites. Students must also be attentive to schedule constraints.

Compulsory Courses

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

Choose 10 credits in the following list :

ELEN0016-2	*Computer vision* (english language) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (english language) - Pierre SACRÉ - [80h Proj.]	Q2	30	4	[+]	**5**
INFO2049-1	*Web and Text Analytics* (english language) - Ashwin ITTOO	Q1	30	-	-	**5**
GBIO0002-1	*Genetics and bioinformatics* (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]	**5**
DROI1357-1	*European law, (big) data and artificial intelligence applications seminar* (english language) - - Suppl : Ljupcho GROZDANOVSKI	Q1	24	-	-	**5**
INFO8003-1	*Optimal decision making for complex problems* (english language) - Damien ERNST - [45h Proj.]	Q2	25	10	[+]	**5**
INFO8004-1	*Advanced Machine learning* (english language) - Pierre GEURTS, Gilles LOUPPE, Louis WEHENKEL - [20h Proj.]	Q2	25	-	[+]	**5**

INFO9014-1	*Knowledge representation and reasoning* (english language) - Christophe DEBRUYNE - [45h Proj.] **Corequisite :** INFO9015-1 - Logic for Computer Science	Q2	24	20	[+]	**5**
INFO9023-1	*Machine Learning Systems Design* (english language) - Thomas VRANCKEN - [17h Labo., 18h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q2	17	-	[+]	**5**

Professional focus on "Management"

Students choosing this focus shall select, in addition to 27 credits of compulsory courses, 33 credits of elective courses inside or outside the focus. One of the 3 language courses belonging to the focus must necessarily be chosen as an option in either block 1 or block 2, for 3 credits. The regulation allows students to choose elective courses during the block of their choice, in accordance with the prerequisites and co-requisites. Students must also be attentive to schedule constraints.

Students who intend to take the "Financial Engineering" focus in the Business Engineering Master, must take "GEST0832-4 Marchés Financiers", as the 5-credit free option course in this programme, prior to joining the Business Engineering Master.

Compulsory Courses

FINA0001-1	*Financial statement analysis and financing an enterprise* - Wouter TORSIN	Q2	45	-	-	**5**
TECH0763-2	*Industrial technologies* - Sabine DANTHINE, Brigitte EVRARD, Angélique LÉONARD, Dominique TOYE	Q1	45	-	-	**5**
LOGI0010-1	*Supply Chain Management* (english language) - Yasemin ARDA	Q2	45	-	-	**5**

Choose 10 credits in the lists below :

[...]	With the agreement of the jury, choose 5 credits in any course programme of the University or from the UNIC course catalog.					

Computer Science foundation courses

The following courses are corequisite to some compulsory courses of the master program. They must be taken as a priority, unless they were already taken as part of the bachelor in computer science, or unless the corresponding knowledge and skills have been acquired previously (Are involved in these courses bachelors in "Informatique de gestion" and "Informatique et systèmes who must take these courses during the block 1").

MATH0500-1	*Introduction to numerical algorithmic* - Quentin LOUVEAUX - [6h Labo., 45h Proj.]	Q1	24	14	[+]	**5**
INFO0902-1	*Data structures and algorithms* - Pierre GEURTS - [40h Proj.]	Q2	26	20	[+]	**5**
INFO0010-4	*Introduction to computer networking* (english language) - Guy LEDUC - [12h Labo., 40h Proj.]	Q1	32	2	[+]	**5**
INFO0012-2	*Computation structures* (english language) - Pascal FONTAINE, Laurent MATHY - [40h Proj.]	Q1	26	26	[+]	**5**
INFO0940-1	*Operating systems* (english language) - Laurent MATHY - [30h Proj.]	Q2	30	6	[+]	**5**
INFO8006-1	*Introduction to artificial intelligence* (english language) - Gilles LOUPPE - [45h Proj.]	Q1	25	20	[+]	**5**

Computer systems security

INFO0031-1	*Network Engineering* (english language) - Benoît DONNET, Guy LEDUC - [12h Labo., 30h Proj.]	Q2	30	-	[+]	**5**
INFO0045-3	*Introduction to computer security* (english language) - Benoît DONNET - [10h Labo., 30h Proj.] **Corequisite :** INFO0902-1 - Structures des données et algorithmes INFO0012-2 - Computation structures	Q1	30	6	[+]	**5**

	INFO0010-4 - Introduction to computer networking					
INFO0056-1	*Securing Networks* (english language) - Guy LEDUC - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0045-3 - Introduction to computer security INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO0939-1	*High performance scientific computing* (english language) - Christophe GEUZAINE - [20h Proj.]	Q1	30	15	[+]	**5**
INFO8002-1	*Topics in Distributed Systems* (english language) - Bernard BOIGELOT, Christophe DEBRUYNE, Pascal FONTAINE, Guy LEDUC, Laurent MATHY - [35h Proj.] (Odd years)	Q2	30	-	[+]	**5**
INFO8012-1	*Digital Forensics* (english language) - Benoît DONNET, Laurent MATHY - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0085-1 - Compilers INFO0010-4 - Introduction to computer networking INFO0940-1 - Operating systems	Q2	30	-	[+]	**5**
INFO8011-1	*Network infrastructures* (english language) - Benoît DONNET, Guy LEDUC, Laurent MATHY - [8h Labo., 30h Proj.] **Corequisite :** INFO0010-4 - Introduction to computer networking	Q1	30	-	[+]	**5**
INFO8013-1	*Advanced Computer Security* (english language) - Benoît DONNET, Laurent MATHY - [20h Labo., 30h Proj.] (Odd years) **Corequisite :** INFO0045-3 - Introduction to computer security	Q2	20	-	[+]	**5**
Intelligent Systems						
INFO8010-1	*Deep learning* (english language) - Gilles LOUPPE - [60h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q2	30	-	[+]	**5**
ELEN0016-2	*Computer vision* (english language) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (english language) - Pierre SACRÉ - [80h Proj.]	Q2	30	4	[+]	**5**
INFO9015-1	*Logic for Computer Science* (english language) - Pascal FONTAINE	Q1	24	20	-	**5**
INFO2049-1	*Web and Text Analytics* (english language) - Ashwin ITTOO **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q1	30	-	-	**5**
GBIO0002-1	*Genetics and bioinformatics* (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]	**5**
INFO8004-1	*Advanced Machine learning* (english language) - Pierre GEURTS, Gilles LOUPPE, Louis WEHENKEL - [20h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning INFO8010-1 - Deep learning	Q2	25	-	[+]	**5**
INFO9014-1	*Knowledge representation and reasoning* (english language) - Christophe DEBRUYNE - [45h Proj.] **Corequisite :** INFO9015-1 - Logic for Computer Science	Q2	24	20	[+]	**5**
Other optional courses						
INFO2051-1	*Object-oriented programming on mobile devices* (english language) - Laurent MATHY - [90h Proj.]	Q1	15	10	[+]	**5**
INFO0064-2	*Embedded systems* (english language) - Bernard BOIGELOT	Q1	25	20	-	**3**

INFO2055-1	*Embedded systems project* (english language) - Bernard BOIGELOT - [60h Proj.] **Corequisite :** INFO0064-2 - Embedded systems	Q2	-	-	[+]	**2**
INFO0060-1	*Introduction to computer systems verification* (english language) - Bernard BOIGELOT, Pascal FONTAINE - [20h Proj.] **Corequisite :** INFO0016-1 - Introduction to the theory of computation INFO9015-1 - Logic for Computer Science	Q2	20	20	[+]	**5**
MECA0524-1	*CAD & Geometric Algorithms* - Eric BÉCHET - [60h Proj.]	Q1	20	20	[+]	**5**
GBIO0009-1	*Topics in bioinformatics* (english language) - Kristel VAN STEEN - [35h Proj.] **Prerequisite :** GBIO0002-1 - Genetics and bioinformatics	Q1	25	15	[+]	**5**
MATH0461-2	*Introduction to numerical optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	**5**
MATH0462-1	*Discrete optimization* (english language) - Quentin LOUVEAUX - [25h Proj.] **Corequisite :** MATH0500-1 - Introduction à l'algorithmique numérique	Q2	30	20	[+]	**5**
GBIO0030-1	*Computational approaches to statistical generics* (english language) - Kristel VAN STEEN - [35h Proj.] **Prerequisite :** GBIO0002-1 - Genetics and bioinformatics	Q2	25	15	[+]	**5**
GBIO0031-1	*Learning from genomic data* (english language) - Kristel VAN STEEN - [150h Proj.] **Prerequisite :** GBIO0002-1 - Genetics and bioinformatics	Q2	-	-	[+]	**5**
INFO9012-1	*Parallel Programming* (english language) - Pascal FONTAINE	Q2	25	25	-	**5**
INFO9015-1	*Logic for Computer Science* (english language) - Pascal FONTAINE	Q1	24	20	-	**5**
INFO9016-1	*Advanced Databases* (english language) - Christophe DEBRUYNE - [20h Proj.]	Q2	24	20	[+]	**5**
INFO9023-1	*Machine Learning Systems Design* (english language) - Thomas VRANCKEN - [17h Labo., 18h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q2	17	-	[+]	**5**

Block 2

Depending on your track record or your professional/research focus, some prerequisites/corequisites of your first year program might appear in bloc 2. You are therefore invited to go through the list of courses suggested in bloc 2 even if you enroll for the first time in this master program.

Compulsory Courses

ATFE0002-1	*Master thesis* (english language) - COLLÉGIALITÉ, Laurent MATHY - [750h Proj.]	TA	-	-	[+]	**25**

Optional courses

Choose one focus among the three below :

Professional focus on "Computer systems security"

Choose 15 credits in the following list :

INFO0064-2	*Embedded systems* (english language) - Bernard BOIGELOT	Q1	25	20	-	**3**
INFO2055-1	*Embedded systems project* (english language) - Bernard BOIGELOT -	Q2	-	-	[+]	**2**

	[60h Proj.] **Corequisite :** INFO0064-2 - Embedded systems					
INFO2051-1	*Object-oriented programming on mobile devices* (english language) - Laurent MATHY - [90h Proj.]	Q1	15	10	[+]	**5**
INFO0056-1	*Securing Networks* (english language) - Guy LEDUC - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0045-3 - Introduction to computer security INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO0939-1	*High performance scientific computing* (english language) - Christophe GEUZAINE - [20h Proj.]	Q1	30	15	[+]	**5**
INFO8002-1	*Topics in Distributed Systems* (english language) - Bernard BOIGELOT, Christophe DEBRUYNE, Pascal FONTAINE, Guy LEDUC, Laurent MATHY - [35h Proj.] (Odd years)	Q2	30	-	[+]	**5**
INFO8012-1	*Digital Forensics* (english language) - Benoît DONNET, Laurent MATHY - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0940-1 - Operating systems INFO0085-1 - Compilers INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO8011-1	*Network infrastructures* (english language) - Benoît DONNET, Guy LEDUC, Laurent MATHY - [8h Labo., 30h Proj.] **Corequisite :** INFO0010-4 - Introduction to computer networking	Q1	30	-	[+]	**5**
INFO8013-1	*Advanced Computer Security* (english language) - Benoît DONNET, Laurent MATHY - [20h Labo., 30h Proj.] (Odd years) **Corequisite :** INFO0045-3 - Introduction to computer security	Q2	20	-	[+]	**5**
INFO9016-1	*Advanced Databases* (english language) - Christophe DEBRUYNE - [20h Proj.]	Q2	24	20	[+]	**5**

Professional focus on "Intelligent Systems"

Choose 15 credits in the following list :

ELEN0016-2	*Computer vision* (english language) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (english language) - Pierre SACRÉ - [80h Proj.]	Q2	30	4	[+]	**5**
INFO2049-1	*Web and Text Analytics* (english language) - Ashwin ITTOO	Q1	30	-	-	**5**
GBIO0002-1	*Genetics and bioinformatics* (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]	**5**
DROI1357-1	*European law, (big) data and artificial intelligence applications seminar* (english language) - - Suppl : Ljupcho GROZDANOVSKI	Q1	24	-	-	**5**
INFO8003-1	*Optimal decision making for complex problems* (english language) - Damien ERNST - [45h Proj.]	Q2	25	10	[+]	**5**
INFO8004-1	*Advanced Machine learning* (english language) - Pierre GEURTS, Gilles LOUPPE, Louis WEHENKEL - [20h Proj.]	Q2	25	-	[+]	**5**
INFO9014-1	*Knowledge representation and reasoning* (english language) - Christophe DEBRUYNE - [45h Proj.] **Corequisite :** INFO9015-1 - Logic for Computer Science	Q2	24	20	[+]	**5**
INFO9023-1	*Machine Learning Systems Design* (english language) - Thomas VRANCKEN - [17h Labo., 18h Proj.]	Q2	17	-	[+]	**5**

Corequisite :
ELEN0062-1 - Introduction to machine learning

Professional focus on "Management"

Compulsory Courses

ERAS0011-1	*Business Simulation* (english language) - Anne CHANTEUX - [50h Mon. WS]	Q1	-	-	[+]	**2**
GRHO0001-4	*Strategic Human Resources Management* - François PICHAULT	Q1	45	-	-	**5**
DROI2003-2	*Legal management of a company and its employees* - *Droit des sociétés* - Laurent STAS DE RICHELLE - *Droit fiscal* - Isabelle RICHELLE - [5h Conf.]	Q2	 25 25	 - -	 - [+]	**5**

Choose one of the three following courses :

LANG1936-1	*Elementary Dutch 1* - Fanny NSITA	Q2	30	-	-	**3**
LANG1933-1	*Elementary German 1* - Marie MAWHIN	TA	30	-	-	**3**
LANG1934-1	*Elementary Spanish 1* - Alexis ALVAREZ BARBOSA, Alba BALLESTA MARTÍNEZ	TA	30	-	-	**3**

Choose 20 credits in the lists below :

[...] With the agreement of the jury, choose 5 credits in any course programme of the University or from the UNIC course catalog.

Computer Science foundation courses

Computer systems security

INFO0031-1	*Network Engineering* (english language) - Benoît DONNET, Guy LEDUC - [12h Labo., 30h Proj.]	Q2	30	-	[+]	**5**
INFO0045-3	*Introduction to computer security* (english language) - Benoît DONNET - [10h Labo., 30h Proj.] **Corequisite :** INFO0902-1 - Structures des données et algorithmes INFO0012-2 - Computation structures INFO0010-4 - Introduction to computer networking	Q1	30	6	[+]	**5**
INFO0056-1	*Securing Networks* (english language) - Guy LEDUC - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0045-3 - Introduction to computer security INFO0010-4 - Introduction to computer networking	Q2	30	-	[+]	**5**
INFO0939-1	*High performance scientific computing* (english language) - Christophe GEUZAINE - [20h Proj.]	Q1	30	15	[+]	**5**
INFO8002-1	*Topics in Distributed Systems* (english language) - Bernard BOIGELOT, Christophe DEBRUYNE, Pascal FONTAINE, Guy LEDUC, Laurent MATHY - [35h Proj.] (Odd years)	Q2	30	-	[+]	**5**
INFO8012-1	*Digital Forensics* (english language) - Benoît DONNET, Laurent MATHY - [12h Labo., 30h Proj.] (Even years) **Corequisite :** INFO0085-1 - Compilers INFO0010-4 - Introduction to computer networking INFO0940-1 - Operating systems	Q2	30	-	[+]	**5**
INFO8011-1	*Network infrastructures* (english language) - Benoît DONNET, Guy LEDUC, Laurent MATHY - [8h Labo., 30h Proj.] **Corequisite :** INFO0010-4 - Introduction to computer networking	Q1	30	-	[+]	**5**
INFO8013-1	*Advanced Computer Security* (english language) - Benoît DONNET, Laurent MATHY - [20h Labo., 30h Proj.] (Odd years)	Q2	20	-	[+]	**5**

Corequisite :
INFO0045-3 - Introduction to computer security

Intelligent Systems

INFO8010-1	*Deep learning* (english language) - Gilles LOUPPE - [60h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q2	30	-	[+]	**5**
ELEN0016-2	*Computer vision* (english language) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (english language) - Pierre SACRÉ - [80h Proj.]	Q2	30	4	[+]	**5**
INFO9015-1	*Logic for Computer Science* (english language) - Pascal FONTAINE	Q1	24	20	-	**5**
INFO2049-1	*Web and Text Analytics* (english language) - Ashwin ITTOO **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q1	30	-	-	**5**
GBIO0002-1	*Genetics and bioinformatics* (english language) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]	**5**
INFO8004-1	*Advanced Machine learning* (english language) - Pierre GEURTS, Gilles LOUPPE, Louis WEHENKEL - [20h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning INFO8010-1 - Deep learning	Q2	25	-	[+]	**5**
INFO9014-1	*Knowledge representation and reasoning* (english language) - Christophe DEBRUYNE - [45h Proj.] **Corequisite :** INFO9015-1 - Logic for Computer Science	Q2	24	20	[+]	**5**

Other optional courses

INFO2051-1	*Object-oriented programming on mobile devices* (english language) - Laurent MATHY - [90h Proj.]	Q1	15	10	[+]	**5**
INFO0064-2	*Embedded systems* (english language) - Bernard BOIGELOT	Q1	25	20	-	**3**
INFO2055-1	*Embedded systems project* (english language) - Bernard BOIGELOT - [60h Proj.] **Corequisite :** INFO0064-2 - Embedded systems	Q2	-	-	[+]	**2**
INFO0060-1	*Introduction to computer systems verification* (english language) - Bernard BOIGELOT, Pascal FONTAINE - [20h Proj.] **Corequisite :** INFO0016-1 - Introduction to the theory of computation INFO9015-1 - Logic for Computer Science	Q2	20	20	[+]	**5**
MECA0524-1	*CAD & Geometric Algorithms* - Eric BÉCHET - [60h Proj.]	Q1	20	20	[+]	**5**
GBIO0009-1	*Topics in bioinformatics* (english language) - Kristel VAN STEEN - [35h Proj.] **Prerequisite :** GBIO0002-1 - Genetics and bioinformatics	Q1	25	15	[+]	**5**
MATH0461-2	*Introduction to numerical optimization* (english language) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	**5**
MATH0462-1	*Discrete optimization* (english language) - Quentin LOUVEAUX - [25h Proj.] **Corequisite :** MATH0500-1 - Introduction à l'algorithmique numérique	Q2	30	20	[+]	**5**
GBIO0030-1	*Computational approaches to statistical generics* (english language) - Kristel VAN STEEN - [35h Proj.] **Prerequisite :**	Q2	25	15	[+]	**5**

	GBIO0002-1 - Genetics and bioinformatics					
GBIO0031-1	*Learning from genomic data* (english language) - Kristel VAN STEEN - [150h Proj.] **Prerequisite :** GBIO0002-1 - Genetics and bioinformatics	Q2	-	-	[+]	**5**
INFO9012-1	*Parallel Programming* (english language) - Pascal FONTAINE	Q2	25	25	-	**5**
INFO9015-1	*Logic for Computer Science* (english language) - Pascal FONTAINE	Q1	24	20	-	**5**
INFO9016-1	*Advanced Databases* (english language) - Christophe DEBRUYNE - [20h Proj.]	Q2	24	20	[+]	**5**
INFO9023-1	*Machine Learning Systems Design* (english language) - Thomas VRANCKEN - [17h Labo., 18h Proj.] **Corequisite :** ELEN0062-1 - Introduction to machine learning	Q2	17	-	[+]	**5**
Internships and projects (maximum 15 credits)						
ASTG9005-1	*Research Internship* (english language) - Benoît DONNET - [300h Proj.] **Prerequisite :** PROJ0010-1 - Software project engineering and management	TA	-	-	[+]	**10**
ASTG0021-1	*Technical company internship* (english language) - Laurent MATHY - [300h Proj.] **Prerequisite :** PROJ0010-1 - Software project engineering and management *Notice* : the two company internships are mutually exclusive	TA	-	-	[+]	**10**
PROJ0011-1	*Personal student project* (english language) - Bernard BOIGELOT, COLLÉGIALITÉ - [150h Proj.]	TA	-	-	[+]	**5**

Bloc d'aménagement du programme de l'année

Additional ECTS Master in computer science (for students who have not obtained a Bachelor's degree in computer science)

Students that are admitted to the master of science in Computer Science without having obtained a degree of bachelor in Computer Science must add to their programme the following list of courses, to be taken in the first year of the master.

Compulsory Courses

INFO9012-1	*Parallel Programming* (english language) - Pascal FONTAINE	Q2	25	25	-	**5**
INFO0062-1	*Object-oriented programming* (english language) - Bernard BOIGELOT - [20h Proj.]	Q2	25	20	[+]	**5**
INFO0054-1	*Functional programming* - Christophe DEBRUYNE - [20h Proj.]	Q1	24	24	[+]	**5**
MATH2019-1	*Mathematics for computing 1* - Emilie CHARLIER	Q1	26	26	-	**5**
INFO0027-3	*Programming techniques, Software patterns* (english language) - Laurent MATHY - [30h Proj.]	Q2	10	10	[+]	**2**
MATH0495-1	*Elements for calculating probabilities* - Laurent LOOSVELDT - [5h Proj.]	Q1	26	26	[+]	**5**

Optional courses

Students who pass the entrance test may replace LANG6011-1 with the advanced course LANG0988-1 "Advanced for ICT studies".

LANG6011-1	*Remedial English for Computer Science* (english language) - Adnan VESSEUR	Q2	3	27	-	**3**

LANG0988-1	*Advanced English for ICT studies* (english language) - Adnan VESSEUR	Q1	5	25	-	**3**

Additonal ECTS Master in computer science (aimed at bachelors in computer science from non university higher education institution)

Compulsory Courses

MATH0500-1	*Introduction to numerical algorithmic* - Quentin LOUVEAUX - [6h Labo., 45h Proj.]	Q1	24	14	[+]	**5**
INFO0902-1	*Data structures and algorithms* - Pierre GEURTS - [40h Proj.]	Q2	26	20	[+]	**5**
INFO9012-1	*Parallel Programming* (english language) - Pascal FONTAINE	Q2	25	25	-	**5**
INFO0010-4	*Introduction to computer networking* (english language) - Guy LEDUC - [12h Labo., 40h Proj.]	Q1	32	2	[+]	**5**
INFO0012-2	*Computation structures* (english language) - Pascal FONTAINE, Laurent MATHY - [40h Proj.]	Q1	26	26	[+]	**5**
INFO0940-1	*Operating systems* (english language) - Laurent MATHY - [30h Proj.]	Q2	30	6	[+]	**5**
INFO0062-1	*Object-oriented programming* (english language) - Bernard BOIGELOT - [20h Proj.]	Q2	25	20	[+]	**5**
INFO0054-1	*Functional programming* - Christophe DEBRUYNE - [20h Proj.]	Q1	24	24	[+]	**5**
MATH2019-1	*Mathematics for computing 1* - Emilie CHARLIER	Q1	26	26	-	**5**
INFO0027-3	*Programming techniques, Software patterns* (english language) - Laurent MATHY - [30h Proj.]	Q2	10	10	[+]	**2**
MATH0495-1	*Elements for calculating probabilities* - Laurent LOOSVELDT - [5h Proj.]	Q1	26	26	[+]	**5**
INFO8006-1	*Introduction to artificial intelligence* (english language) - Gilles LOUPPE - [45h Proj.]	Q1	25	20	[+]	**5**

Optional courses

Students who pass the entrance test may replace LANG6011-1 with the advanced course LANG0988-1 "Advanced for ICT studies".

LANG6011-1	*Remedial English for Computer Science* (english language) - Adnan VESSEUR	Q2	3	27	-	**3**
LANG0988-1	*Advanced English for ICT studies* (english language) - Adnan VESSEUR	Q1	5	25	-	**3**