

Vue bloc du programme des cours

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Bloc 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.

To complete their curriculum, students must earn or validate the 70 credits of the compulsory courses (including the master thesis), choose one option for 20 credits and 30 credits from one of the three professional foci.

Ideally, students enrolling in the master program should have acquired the skills and knowledge corresponding to the 40 credits in "Computer science" offered as part of the bachelor program in engineering.

Compulsory courses

INFO0085-1	<i>Compilers</i> (anglais) - Pierre GEURTS - [75h Proj.]	Q2	25	-	[+]	5
	Corequis : INFO0016-1 - Introduction to the theory of computation INFO0012-3 - Computation structures INFO0940-1 - Operating systems					
INFO0063-1	<i>Object-oriented software engineering</i> (anglais) - Bernard BOIGELOT - [30h Proj.]	Q1	30	24	[+]	5
	Corequis : INFO0062-1 - Object-oriented programming					
INFO0016-1	<i>Introduction to the theory of computation</i> (anglais) - Pierre WOLPER	Q1	30	30	-	5
MATH0462-1	<i>Discrete optimization</i> (anglais) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	5
INFO0051-1	<i>Logic</i> (anglais) - Pascal GRIBOMONT - [10h Proj.]	Q1	30	25	[+]	5
ELEN0060-2	<i>Information and coding theory</i> (anglais) - Louis WEHENKEL - [30h Proj.]	Q2	30	15	[+]	5
GEST3162-1	<i>Principles of management</i> (anglais) - Michael GHILISSEN, François PICHHAULT, Thierry PIRONET, Didier VAN CAILLIE - Suppl : Fanny FOX	Q1	25	25	-	5
PROJ0010-1	<i>Integrated software project, including fundamentals in project management</i> (anglais) - JeanLouis BINOT, Bernard BOIGELOT, Benoît DONNET, Guy LEDUC, Laurent MATHY - [290h Proj.]	TA	10	-	[+]	10
	Corequis : INFO0063-1 - Object-oriented software engineering INFO0010-4 - Introduction to computer networking					

Optional courses

Choose one focus among the three below :

Professional focus on "Computer systems and networks"

Compulsory courses

INFO0031-1	<i>Computer network architectures and multimedia</i> (anglais) - Guy LEDUC - [10h Labo., 25h Proj.]	Q1	35	-	[+]	5
	Corequis : INFO0010-4 - Introduction to computer networking					
INFO0045-3	<i>Introduction to computer security</i> (anglais) - Benoît DONNET - [8h Labo., 30h Proj.]	Q2	30	10	[+]	5

Students choosing this focus shall select, in addition to 10 credits of compulsory courses, 5 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

INFO0064-2	<i>Embedded systems</i> (anglais) - Bernard BOIGELOT	Q1	25	20	-	3
INFO2055-1	<i>Embedded systems project</i> (anglais) - Bernard BOIGELOT - [60h Proj.]	Q2	-	-	[+]	2

	Corequis : INFO0064-2 - Embedded systems							
INFO0941-1	<i>Network measurement and monitoring</i> (anglais) - Benoît DONNET - [60h Proj.]	Q2	20	-	[+]			5
	Corequis : INFO0031-1 - Computer network architectures and multimedia							
INFO2051-1	<i>Object-oriented programming on mobile devices</i> (anglais) - Laurent MATHY - [90h Proj.]	Q2	15	10	[+]			5
INFO0056-1	<i>Managing and securing computer networks</i> (anglais) - Guy LEDUC - [12h Labo., 55h Proj.]	Q2	30	-	[+]			5
	Corequis : INFO0045-3 - Introduction to computer security							
ELEN0002-2	<i>Introduction to audio and video techniques</i> (anglais) - JeanJacques EMBRECHTS - [8h Labo.]	Q1	30	22	[+]			5
INFO0939-1	<i>High performance scientific computing</i> (anglais) - Christophe GEUZAIN - [20h Proj.]	Q1	30	15	[+]			5

Professional focus on "Intelligent Systems"

Compulsory courses

ELEN0062-1	<i>Introduction to machine learning</i> (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]			5
	Corequis : MATH0462-1 - Discrete optimization							

Students choosing this focus shall select, in addition to 5 credits of compulsory courses, 10 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

ELEN0016-2	<i>Computer vision</i> (anglais) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]			5
INFO0948-2	<i>Introduction to intelligent robotics</i> (anglais) - Renaud DETRY, Louis WEHENKEL - [80h Proj.]	Q2	30	4	[+]			5
	Corequis : ELEN0062-1 - Introduction to machine learning ELEN0016-2 - Computer vision							
INFO0049-1	<i>Knowledge representation</i> (anglais) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+]			5
	Corequis : INFO0051-1 - Logic							
INFO2049-1	<i>Web and Text Analytics</i> (anglais) - Ashwin ITTOO	Q1	30	-	-			5
	Corequis : ELEN0062-1 - Introduction to machine learning							
INFO2046-2	<i>Computational geometry</i> (anglais) - Eric BÉCHET - [95h Proj.]	Q1	25	-	[+]			5
MECA0031-2	<i>Kinematics and dynamics of mechanisms</i> (anglais) - Olivier BRULS - [40h Proj.]	Q2	30	20	[+]			5
GBIO0002-1	<i>Genetics and bioinformatics</i> (anglais) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]			5

Professional focus on "Management"

Compulsory courses

FINA0001-1	<i>Analyse des états financiers et financement de l'entreprise</i> - Jacques BERWART	Q2	45	-	-			5
ECON2259-1	<i>Microéconomie et économie industrielle</i> - Axel GAUTIER, Bernard THIRY	Q2	40	15	-			5

LOGI0010-1 *Supply Chain Management* (anglais) - Yasemin ARDA Q2 45 - - 5

Research focus

À destination des étudiants qui ont suivi cette finalité en 2015-2016.

Bloc 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

ATFE0015-1 *Master thesis* (anglais) - COLLÉGIALITÉ, Laurent MATHY - [750h Proj.] TA - - [+] 25

Optional courses

Carry on the focus during the second bloc :

Professional focus on "Computer systems and networks"

Students choosing this focus shall select 30 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

INFO0064-2	<i>Embedded systems</i> (anglais) - Bernard BOIGELOT	Q1	25	20	-	3
INFO2055-1	<i>Embedded systems project</i> (anglais) - Bernard BOIGELOT - [60h Proj.]	Q2	-	-	[+]	2
	Corequis : INFO0064-2 - Embedded systems					
INFO0941-1	<i>Network measurement and monitoring</i> (anglais) - Benoît DONNET - [60h Proj.]	Q2	20	-	[+]	5
	Corequis : INFO0031-1 - Computer network architectures and multimedia					
INFO2051-1	<i>Object-oriented programming on mobile devices</i> (anglais) - Laurent MATHY - [90h Proj.]	Q2	15	10	[+]	5
INFO0056-1	<i>Managing and securing computer networks</i> (anglais) - Guy LEDUC - [12h Labo., 55h Proj.]	Q2	30	-	[+]	5
	Corequis : INFO0045-3 - Introduction to computer security					
ELEN0002-2	<i>Introduction to audio and video techniques</i> (anglais) - JeanJacques EMBRECHTS - [8h Labo.]	Q1	30	22	[+]	5
INFO0939-1	<i>High performance scientific computing</i> (anglais) - Christophe GEUZAIN - [20h Proj.]	Q1	30	15	[+]	5

Professional focus on "Intelligent Systems"

Compulsory courses

SYST0003-1 *Linear control systems* (anglais) - Guillaume DRION - [6h Labo.] Q1 30 30 [+] 5

Students choosing this focus shall select, in addition to 5 credits of compulsory courses, 30 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

ELEN0016-2	<i>Computer vision</i> (anglais) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+]	5
INFO0948-2	<i>Introduction to intelligent robotics</i> (anglais) - Renaud DETRY, Louis WEHENKEL - [80h Proj.]	Q2	30	4	[+]	5
	Corequis : ELEN0062-1 - Introduction to machine learning ELEN0016-2 - Computer vision					

INFO0049-1	<i>Knowledge representation</i> (anglais) - Pascal GRIBOMONT - [50h Proj.] Corequis : INFO0051-1 - Logic	Q2	30	25	[+]	5
INFO2049-1	<i>Web and Text Analytics</i> (anglais) - Ashwin ITTOO Corequis : ELEN0062-1 - Introduction to machine learning	Q1	30	-	-	5
INFO2046-2	<i>Computational geometry</i> (anglais) - Eric BÉCHET - [95h Proj.]	Q1	25	-	[+]	5
MECA0031-2	<i>Kinematics and dynamics of mechanisms</i> (anglais) - Olivier BRULS - [40h Proj.]	Q2	30	20	[+]	5
GBIO0002-1	<i>Genetics and bioinformatics</i> (anglais) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+]	5

Professional focus on "Management"

Compulsory courses

ERAS0011-1	<i>Business Simulation</i> (anglais) - Anne CHANTEUX - [50h TD]	Q1	-	-	[+]	2
GRHO0001-4	<i>Gestion stratégique des ressources humaines</i> - François PICHAULT - Suppl : Frédéric NAEDENOEN	Q1	45	-	-	5
DROI0174-2	<i>Droit commercial</i> - Frédéric DAERDEN, Laurent STAS DE RICHELLE	Q2	45	-	-	5

Students choosing this focus shall select, in addition to 12 credits of compulsory courses, 23 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

LANG1936-1	<i>Néerlandais élémentaire 1</i> - Doris DE LAET	TA	30	-	-	3
LANG1933-1	<i>Allemand élémentaire 1</i> - Marie MAWHIN	Q2	30	-	-	3
LANG1934-1	<i>Espagnol élémentaire 1</i> - Alexis ALVAREZ BARBOSA	Q2	30	-	-	3

Research focus

Choose remaining credits in the lists below :

Optional courses outside the focus

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.

MATH0500-1	<i>Introduction à l'algorithmique numérique</i> - Quentin LOUVEAUX - [6h Labo., 45h Proj.]	Q1	24	14	[+]	5
INFO2050-1	<i>Programmation avancée</i> - Pierre GEURTS - [40h Proj.]	Q1	25	20	[+]	5
INFO0010-4	<i>Introduction to computer networking</i> (anglais) - Guy LEDUC - [12h Labo., 40h Proj.]	Q2	35	2	[+]	5
INFO0012-2	<i>Computation structures</i> (anglais) - Pierre WOLPER - [40h Proj.]	Q1	30	25	[+]	5
INFO0940-1	<i>Operating systems</i> (anglais) - Laurent MATHY - [80h Proj.]	Q2	30	6	[+]	5

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

Computer systems and networks

INFO0031-1	<i>Computer network architectures and multimedia</i> (anglais) - Guy LEDUC - [10h Labo., 25h Proj.]	Q1	35	-	[+]	5
INFO0045-3	<i>Introduction to computer security</i> (anglais) - Benoît DONNET - [8h Labo., 30h Proj.]	Q2	30	10	[+]	5
INFO0941-1	<i>Network measurement and monitoring</i> (anglais) - Benoît DONNET - [60h Proj.]	Q2	20	-	[+]	5

	Corequis : INFO0031-1 - Computer network architectures and multimedia				
INFO2051-1	<i>Object-oriented programming on mobile devices</i> (anglais) - Laurent MATHY - [90h Proj.]	Q2	15	10	[+] 5
INFO0056-1	<i>Managing and securing computer networks</i> (anglais) - Guy LEDUC - [12h Labo., 55h Proj.]	Q2	30	-	[+] 5
	Corequis : INFO0045-3 - Introduction to computer security				
ELEN0002-2	<i>Introduction to audio and video techniques</i> (anglais) - JeanJacques EMBRECHTS - [8h Labo.]	Q1	30	22	[+] 5
INFO0939-1	<i>High performance scientific computing</i> (anglais) - Christophe GEUZAIN - [20h Proj.]	Q1	30	15	[+] 5
Intelligent Systems					
ELEN0062-1	<i>Introduction to machine learning</i> (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+] 5
	Corequis : MATH0462-1 - Discrete optimization				
ELEN0016-2	<i>Computer vision</i> (anglais) - Marc VAN DROOGENBROECK - [50h Proj.]	Q1	30	10	[+] 5
INFO0948-2	<i>Introduction to intelligent robotics</i> (anglais) - Renaud DETRY, Louis WEHENKEL - [80h Proj.]	Q2	30	4	[+] 5
	Corequis : ELEN0062-1 - Introduction to machine learning ELEN0016-2 - Computer vision				
INFO0049-1	<i>Knowledge representation</i> (anglais) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+] 5
	Corequis : INFO0051-1 - Logic				
INFO2046-2	<i>Computational geometry</i> (anglais) - Eric BÉCHET - [95h Proj.]	Q1	25	-	[+] 5
INFO2049-1	<i>Web and Text Analytics</i> (anglais) - Ashwin ITTOO	Q1	30	-	- 5
	Corequis : ELEN0062-1 - Introduction to machine learning				
GBIO0002-1	<i>Genetics and bioinformatics</i> (anglais) - Franck DEQUIEDT, Kristel VAN STEEN - [15h Proj.]	Q1	30	15	[+] 5
Other optional courses					
INFO0064-2	<i>Embedded systems</i> (anglais) - Bernard BOIGELOT	Q1	25	20	- 3
INFO2055-1	<i>Embedded systems project</i> (anglais) - Bernard BOIGELOT - [60h Proj.]	Q2	-	-	[+] 2
	Corequis : INFO0064-2 - Embedded systems				
INFO0050-1	<i>Constraint programming projects</i> (anglais) - Pascal GRIBOMONT - [80h Proj.]	TA	15	10	[+] 5
	Corequis : INFO0049-1 - Knowledge representation				
INFO0060-1	<i>Concurrent system verification and temporal logic</i> (anglais) - Bernard BOIGELOT, Pascal GRIBOMONT, Pierre WOLPER - [20h Proj.]	Q2	30	10	[+] 5
	Prérequis : INFO0016-1 - Introduction to the theory of computation INFO0051-1 - Logic				
INFO0026-3	<i>Computer graphics</i> (anglais) - Eric BÉCHET - [45h Proj.]	Q2	24	24	[+] 5
GBIO0009-1	<i>Topics in bioinformatics</i> (anglais) - Kristel VAN STEEN - [35h Proj.]	Q1	25	15	[+] 5
	Prérequis : GBIO0002-1 - Genetics and bioinformatics				
ELEN0019-2	<i>Audio signal processing : principles and experiments</i> (anglais) - JeanJacques EMBRECHTS - [24h Labo., 30h Proj.]	Q1	5	-	[+] 5

MATH0461-2	<i>Introduction to numerical optimization</i> (anglais) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	5
GBIO0030-1	<i>Computational approaches to statistical genetics</i> (anglais) - Kristel VAN STEEN - [35h Proj.] Prérequis : GBIO0002-1 - Genetics and bioinformatics	Q2	25	15	[+]	5
INGE0012-1	<i>Scientific research in engineering and its impact on innovation</i> (anglais) - Rodolphe SEPULCHRE	Q2	30	30	-	5
Internships and projects (maximum 15 credits)						
ASTG9005-1	<i>Research Internship</i> (anglais) - Benoît DONNET - [300h Proj.]	TA	-	-	[+]	10
ASTG0021-1	<i>Technical company internship</i> (anglais) - Laurent MATHY - [300h Proj.] <i>Remarque :</i> the two company internships are mutually exclusive	TA	-	-	[+]	10
PROJ0011-1	<i>Personal student project</i> (anglais) - Bernard BOIGELOT, COLLÉGIALITÉ - [150h Proj.]	TA	-	-	[+]	5

Bloc d'aménagement du programme de l'année

Crédits supplémentaires Master en ingénieur civil en informatique

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

INFO2050-1	<i>Programmation avancée</i> - Pierre GEURTS - [40h Proj.]	Q1	25	20	[+]	5
MATH0495-1	<i>Eléments du calcul des probabilités</i> - Pascal GRIBOMONT - [5h Proj.]	Q1	15	15	[+]	3
MATH0500-1	<i>Introduction à l'algorithmique numérique</i> - Quentin LOUVEAUX - [6h Labo., 45h Proj.]	Q1	24	14	[+]	5
INFO0027-2	<i>Programming techniques</i> (anglais) - Laurent MATHY - [70h Proj.]	Q2	30	24	[+]	5
INFO0030-3	<i>Projet de programmation</i> - Benoît DONNET - [100h Proj.]	Q2	20	-	[+]	5
MATH1222-3	<i>Introduction aux processus stochastiques, Partim 1 : Chaînes de Markov</i> - Pierre GEURTS, Yvik SWAN - [10h TD]	Q2	20	10	[+]	5