Université de Liège

Programme des cours 2014-2015
Faculté des Sciences Appliquées
Master en ingénieur civil en informatique

Two years programme (120 crédits)

First year (Full English)

Compulsory courses

		Or	Th	Pr	Au	Cr
INFO0085-1	*Compilers* - Pierre GEURTS - [75h Proj.]	Q2	25	-	[+]	**5**
INFO0063-1	*Object-oriented software engineering* (anglais) - Bernard BOIGELOT - [30h Proj.]	Q1	30	24	[+]	**5**
INFO0016-1	*Introduction to the theory of computation* (anglais) - Pierre WOLPER	Q1	30	30	-	**5**
MATH0462-1	*Discrete optimization* (anglais) - Quentin LOUVEAUX - [25h Proj.]	Q1	30	20	[+]	**5**
INFO0051-1	*Logic* (anglais) - Pascal GRIBOMONT - [10h Proj.]	Q1	30	25	[+]	**5**
ELEN0060-2	*Information and coding theory* (anglais) - Louis WEHENKEL - [30h Proj.]	Q2	30	15	[+]	**5**
GEST3162-1	*Introduction to company management* (anglais) - Michael GHILISSEN, François PICHAULT, Thierry PIRONET, Didier VAN CAILLIE	Q2	25	25	-	**5**
PROJ0010-1	*Integrated software project, including fundamentals in project management* (anglais) - JeanLouis BINOT, Bernard BOIGELOT, Benoît DONNET, Guy LEDUC, Laurent MATHY - [290h Proj.]	TA	10	-	[+]	**10**

Optional courses

Students will choose one of the options below and will carry it on during the second year.

"Computer systems and networks" option

INFO0031-1	*Computer network architectures and multimedia* (anglais) - Guy LEDUC - [6h Labo., 25h Proj.]	Q1	35	-	[+]	**5**
INFO0045-3	*Introduction to computer security* (anglais) - Benoît DONNET - [8h Labo., 30h Proj.]	Q2	30	10	[+]	**5**

Students will choose 5 credits in the following list :

INFO0064-3	*Embedded systems* (anglais) - Bernard BOIGELOT - [60h Proj.]	Q1	30	30	[+]	**5**
INFO0941-1	*Network measurement and monitoring* (anglais) - Benoît DONNET - [60h Proj.]	Q2	20	-	[+]	**5**
INFO2051-1	*Object-oriented programming on mobile devices* (anglais) - Laurent MATHY - [90h Proj.]	Q2	15	10	[+]	**5**
INFO0056-1	*Managing and securing computer networks* (anglais) - Guy LEDUC - [12h Labo., 55h Proj.]	Q2	30	-	[+]	**5**
ELEN0062-1	*Applied inductive learning* (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	**5**

"Intelligent Systems" option

ELEN0062-1	*Applied inductive learning* (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	**5**

Students will choose 10 credits in the following list :

INFO0064-3	*Embedded systems* (anglais) - Bernard BOIGELOT - [60h Proj.]	Q1	30	30	[+]	**5**
ELEN0016-2	*Digital image and video processing* (anglais) - Marc VAN DROOGENBROECK - [20h Proj.]	Q1	30	10	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (anglais) - Renaud DETRY - [80h Proj.]	Q2	30	4	[+]	**5**
INFO0049-1	*Knowledge representation* (anglais) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+]	**5**
INFO2049-1	*Web and Text Analytics* (anglais) - Ashwin ITTOO - [90h Proj.]	Q2	15	5	[+]	**5**
INFO2046-2	*Computational geometry* (anglais) - Eric BÉCHET - [90h Proj.]	TA	30	-	[+]	**5**
MECA0031-2	*Kinematics and dynamics of mechanisms* (anglais) - Olivier BRULS	Q2	30	30	-	**5**

Second year (Full English)

Compulsory courses

ATFE0015-1	*Master thesis* (anglais) - COLLÉGIALITÉ - [750h Proj.]	TA	-	-	[+]	**25**
[...]	With the agreement of the jury, students may choose 5 credits in any course programme of the University.					

Choose a focus among :

Research Focus

Optional courses

Students choose 30 credits in the following list :

Computer science						
INFO0026-3	*Computer graphics* (anglais) - Eric BÉCHET - [45h Proj.]	Q2	30	30	[+]	**5**
INFO0027-2	*Programming techniques* (anglais) - Laurent MATHY - [70h Proj.]	Q2	30	24	[+]	**5**
INFO0049-1	*Knowledge representation* (anglais) - Pascal GRIBOMONT - [50h Proj.]	Q2	30	25	[+]	**5**
INFO0050-1	*Constraint programming* (anglais) - Pascal GRIBOMONT - [80h Proj.]	Q1	15	10	[+]	**5**
INFO0056-1	*Managing and securing computer networks* (anglais) - Guy LEDUC - [12h Labo., 55h Proj.]	Q2	30	-	[+]	**5**
INFO0060-1	*Concurrent system verification and temporal logic* (anglais) - Bernard BOIGELOT, Pascal GRIBOMONT, Pierre WOLPER - [20h Proj.]	Q2	30	10	[+]	**5**
INFO0939-1	*High performance scientific computing* (anglais) - Christophe GEUZAINE - [20h Proj.]	Q1	30	15	[+]	**5**
INFO2046-2	*Computational geometry* (anglais) - Eric BÉCHET - [90h Proj.]	TA	30	-	[+]	**5**
INFO0941-1	*Network measurement and monitoring* (anglais) - Benoît DONNET - [60h Proj.]	Q2	20	-	[+]	**5**
INFO0948-2	*Introduction to intelligent robotics* (anglais) - Renaud DETRY - [80h Proj.]	Q2	30	4	[+]	**5**
INFO2051-1	*Object-oriented programming on mobile devices* (anglais) - Laurent MATHY - [90h Proj.]	Q2	15	10	[+]	**5**
INFO2049-1	*Web and Text Analytics* (anglais) - Ashwin ITTOO - [90h Proj.]	Q2	15	5	[+]	**5**
Signal processing						
ELEN0002-2	*Introduction to audio and video techniques* (anglais) - JeanJacques EMBRECHTS - [6h Labo.]	Q1	30	20	[+]	**5**
ELEN0016-2	*Digital image and video processing* (anglais) - Marc VAN DROOGENBROECK - [20h Proj.]	Q1	30	10	[+]	**5**
ELEN0019-2	*Audio signal processing : principles and experiments* (anglais) - JeanJacques EMBRECHTS - [24h Labo., 30h Proj.]	Q1	5	-	[+]	**5**
ELEN0071-1	*Digital Signal Processing* (anglais) - Jacques VERLY - [40h Proj.]		45	15	[+]	**5**
ELEN0072-1	*Statistical signal processing* (anglais) - Jacques VERLY - [40h Proj.]		45	15	[+]	**5**
Biomedical engineering						
GBIO0008-2	*Medical imaging* (anglais) - Christophe PHILLIPS - [8h Labo., 1j T. t.]	Q2	33	12	[+]	**5**
GBIO0009-1	*Bioinformatics* (anglais) - Kristel VAN STEEN	Q1	30	30	-	**5**
GBIO0029-1	*Bioelectronics* (anglais) - Michael KRAFT		30	30	-	**5**
Applied mathematics and modelling						
MATH0461-2	*Introduction to numerical optimization* (anglais) - Quentin LOUVEAUX - [25h Proj.]	Q2	30	20	[+]	**5**
ELEN0062-1	*Applied inductive learning* (anglais) - Pierre GEURTS, Louis WEHENKEL - [40h Proj.]	Q1	30	5	[+]	**5**
Electronics						
ELEN0017-1	*Analysis and Design of Telecommunications Systems* (anglais) - Marc VAN DROOGENBROECK	Q1	30	30	-	**5**
ELEN0078-2	*Acoustics and electroacoustics* (anglais) - JeanJacques EMBRECHTS - [6h Labo.]	Q2	30	22	[+]	**5**
ELEN0037-1	*Microelectronics and IC design* (anglais) - Michael KRAFT		30	30	-	**5**
ELEN0038-1	*Microsystems* (anglais) - Michael KRAFT		30	30	-	**5**
Internships and projects						
	Remarque : The two internships below are mutually exclusive.					
ASTG0021-1	*Entreprise Internship* (anglais) - Guy LEDUC - [300h Proj.]	TA	-	-	[+]	**10**
ASTG9005-1	*Research Internship* (anglais) - Guy LEDUC - [300h Proj.]	TA	-	-	[+]	**10**
PROJ0011-1	*Personal student project* (anglais) - COLLÉGIALITÉ - [150h Proj.]	TA	-	-	[+]	**5**
	Remarque : Students cannot choose courses that they have already passed					

successfully during their bachelor studies.

Management Focus

Remarque : La finalité spécialisée en gestion est organisée pour la dernière fois en 2014-2015.

Cours obligatoires

GEST3001-1	*People management et organisation* - Jocelyne ROBERT	Q1	24	24	-	**4**
GEST3002-1	*Ressources humaines* - Jocelyne ROBERT	Q1	24	-	-	**2**
GEST3003-1	*Competitive strategy in the market place* (anglais) - Michael GHILISSEN	Q1	16	16	-	**3**
GEST3004-1	*Marketing (operations and management)* (anglais) - Michael GHILISSEN	Q1	16	16	-	**3**
GEST3005-2	*Comptabilité et finance* - Jacques BERWART		24	24	-	**4**
GEST3006-1	*Operations and supply chain management I* (anglais) - Yasemin ARDA	Q1	16	16	-	**3**
GSTG3001-1	*Business plan* - COLLÉGIALITÉ		-	30	-	**4**
GSTG3002-1	*Analyse fonctionnelle d'une entreprise* - COLLÉGIALITÉ - [30h St.]		-	-	[+]	**4**

Cours au choix

Choisir 1 cours parmi :

GEST3010-1	*Operations and supply chain management II* - Sabine LIMBOURG	Q1	16	16	-	**3**
GEST3011-2	*ICT for Business* - Alain DUBOIS	Q1	16	16	-	**3**
GEST3012-1	*Modélisation financière et actuarielle* - Louis ESCH	Q1	16	16	-	**3**

Adapted programme for bachelors in engineering without a major in computer science

Bachelors who have not chosen computer science as major option :

* must take all the so-called "prerequisite" courses hereafter, if they were not taken during 1st cycle. These courses must be taken during 1st year of the masters and some 1st-year compulsory courses must be rolled aver 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 optional courses

Prerequisite courses

ELEN0040-1	*Electronique numérique* - Michael KRAFT - Suppl : Patricia ROUSSEAUX	Q2	30	30	-	**5**
INFO0010-4	*Introduction to computer networking* (anglais) - Guy LEDUC - [40h Proj.]	Q2	35	15	[+]	**5**
INFO0012-2	*Computation structures* (anglais) - Pierre WOLPER - [40h Proj.]	Q1	30	25	[+]	**5**
INFO0054-1	*Programmation fonctionnelle* - Pascal GRIBOMONT - [15h Proj.]	Q2	30	25	[+]	**5**
INFO0062-1	*Programmation orientée-objet* - Bernard BOIGELOT - [20h Proj.]	Q2	30	24	[+]	**5**
INFO0004-2	*Object-oriented programming projects* (anglais) - Laurent MATHY - [90h Proj.]	Q1	20	-	[+]	**5**
INFO0902-1	*Structures des données et algorithmes* - Pierre GEURTS - [40h Proj.]	Q2	30	20	[+]	**5**
INFO0940-1	*Operating systems* (anglais) - Laurent MATHY - [80h Proj.]	Q2	30	6	[+]	**5**