

Study Programme 2015-2016
Software Engineering and Statistics

Semester 5

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 5-1 Upgrading courses							24		
Computing	12			12		24			111210
Mathematics	12		12			24			111230
Unit 5-2 – Fundamentals of Mathematics							94	8	
Mathematical Structures	24		22			46	46	4	111110
Mathematical Structures (remedial course)				25		25			111112
Probabilities 1	20		24	4		48	48	4	111220
Unit 5-3 - Fundamentals of Computing 1							140	12,5	
Algorithmics and Programming	14		18	20	8	60	60	5,25	111120
Algorithmics and Programming (remedial course)					25	25		0	111122
Computer architecture	10		10			20	20	1,75	111190
Databases and Data modelling	16		10	12		38	38	3,5	111320
Database project				22		22	22	2	111321
Unit 5-4 - Economics, Soft Skills							96	6,5	
Sport					22	22	22	0,75	111023
Career Planning			10			10	10	0,75	111051
Corporate Management 1	14					14	14	1,25	111054
Economic Environment	12		8			20	20	1,5	111160
Marketing	10		10			20	20	1,5	111170
Communication Tools			10			10	10	0,75	112052
Unit 5-5 Languages							46	3	
Second language									
-> German			20			20	20	1	111012
-> Spanish			20			20	20	1	111013
-> French			20			20	20	1	111014
English			25			25	25	2	111011
Remedial English (TOEIC test training)			14			14	14	0	111961
Total :							400	30	

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Note :
According to the timetable,
the personal work of the student for all the Units of the semester
is between 10 and 20 hours every week.

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Semester 6

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 6-1 - Applied Mathematics							162	12,5	
Statistical Inference	22		14	12		48	48	3,75	112240
Probabilities 2	10		10	4		24	24	2	112250
Numerical Calculus	20		10		10	40	40	3	112260
Graph theory and Combinatorial Analysis	16		14			30	30	2,25	112310
Linear regression	8			12		20	20	1,5	112911
Unit 6-2 -Computing							140	11	
Graph Programming Project Work				14		14	14	1,25	112150
Data Structures	12		16	18		46	46	3,5	112180
Operating Systems	12			12		24	24	2	112270
Introduction to Data Networks	6			20		26	26	2	112290
Languages and Translators	12		6	6	6	30	30	2,25	112300
Unit 6-3 - Soft Skills							58	3,5	
Public Speaking			10			10	10	0,75	111942
Sport					22	22	22	0,75	112023
Fundamentals of Management			10			10	10	0,75	112053
Corporate Management 2			16			16	16	1,25	112230
Unit 6-4 Languages							42	3	
Second language			20			20	20	1	112010
-> German			20			20		1	112012
-> Spanish			20			20		1	112013
-> French			20			20		1	112014
English			22			22	22	2	112011
Remedial English (TOEIC test training)			18			18			112961
Industrial placement (4 weeks during the summer)									
Total :							402	30	

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Semester 7

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 7-1 - Advanced Statistics							136	10,5	
Exploratory Statistics	20					20	38	3	113330
Statistical Modelling	8			10		18	18	1,5	113350
Operational Research	18		10		12	40	40	3	113360
Numerical Calculus	12			8		20	20	1,5	113420
Markov Chains	10		10			20	20	1,5	113911
Unit 7-2 - Software Engineering							138	10,5	
Data Networks	6			20		26	26	2	113370
C and Advanced Systems	12			12		24	24	2	113380
Object-oriented Programming	18			14		32	32	2	113390
Database Management Systems (DBMS)	12			6		18	18	1,5	113400
Object oriented Programming Project					18	18	18	1,5	113921
Object-Oriented Information Systems (UML, OR)	6		6	8		20	20	1,5	113922
Unit 7-3 - Soft Skills							86	6	
Work placement debriefing					10	10	10	0,75	113310
Financial Management	10		10			20	20	1,5	113340
Team Management and Change Management	12		12			24	24	1,5	113430
Introduction to Research			10			10	10	0,75	113941
Labour Law	12					12	12	0,75	113943
Quality - Hygiene - Safety	10					10	10	0,75	113944
Unit 7-4 - Languages							42	3	
Second Language			20			20	20		
-> German			20			20		1	113012
-> Spanish			20			20		1	113013
-> French			20			20		1	113014
English			22			22	22	2	113011
Remedial English (TOEIC test training)			18			18			113961
Total :							402	30	

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Semester 8

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 8-1 - Probabilistic Modelling and Random Processes							81	7	
Stochastic Processes	12		10			22	22	1,5	114460
Advanced Statistical Modelling	16			12		28	28	2	114470
Statistics Project					15	15	15	1,25	114520
Stochastic Processes - Project					16	16	16	1,75	114821
Unit 8-2 - Software Systems							116	9	
Software Architecture	12			12		24	24	2	114500
Logic and Semantic Web	10		10	10		30	30	2,25	114540
Software Architecture Project					14	14	14	1,25	114921
Unit 8-3 - Information Systems Management							68	4	
Management Control	10		10			20	20	1,5	114450
Software Engineering	12		12			24	24	1,5	114530
Information System Project					48	48	48	3,5	114610
To Succeed in a Job Interview			8			8	8	0	114952
Contract Negotiation	12					12	12	1	114953
Social and Environmental Responsibility	4					4	4	0	114954
Unit 8-4 - Assistant Engineer Placement : Starting in mid-May (10-13 weeks)							95	7	
Assistant Engineer Placement					95	95	95	7	114640
Unit 8-5 Languages							42	3	
Second Language									
-> German			20			20	20	1	114012
-> Spanish			20			20	20	1	114013
-> French			20			20	20	1	114014
English			22			22	22	2	114011
Remedial English (TOEIC test training)			18			18	18	0	114971
Total :							402	30	

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Semester 9

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 9-1 – Specialisation courses							68	5,5	
Distributed Computing Systems	14			8		22	22	1,75	115015
Advanced Optimization Methods	12			10		22	22	1,75	115017
Time Series	10			14		24	24	2	115018
Unit 9-2 - Elective Modules							110	10	
<i>Elective Modules : 5 courses to be chosen</i>									
<i>From the following list :</i>							110	10	115030
-> Financial Engineering	12		10			22		2	115019
-> Artificial Intelligence	10			12		22		2	115021
-> Data mining	12			10		22		2	115023
-> Mathematics of new financial products	14		8			22		2	115025
-> High performance Calculation	14			8		22		2	115027
-> Performance of Financial Markets	10		12			22		2	115028
-> Statistical Methods for Marketing	10			12		22		2	115029
-> Software Engineering	12			10		22		2	115031
-> Biostatistics	14		10			24		2	115032
-> Big Data	10			12		22		2	115033
Unit 9-3 - Accounting, Management, Communication 3							72	4,5	
Management Simulation			24			24	24	1,5	115020
Cross-Disciplinary modules - 2 courses to be chosen							50	3	
<i>From the following list *:</i>									
-> Life Cycle Assessment (LCA) and eco-design			24			24		1,5	925510
-> Intercultural Management	24					24	24	1,5	925511
-> Approaches of social and interdependent economy	12		12			24	24	1,5	925513
-> Entrepreneurship	24					24	24	1,5	925516
-> Co-Design in Polytech Lille's fablab			24				24	1,5	925517
-> High Tech innovation Management and Business Intelligence	24						24	1,5	925523
-> Discover the Internet of things	12			12		24	24	1,5	925530
-> Industrial Waste Management in France	24						24	1,5	925540
-> Renewable Energy	16			8		24	24	1,5	925571
-> Mobilizing the collective intelligence: a key resource in the team work	24					24	24	1,5	925580
-> User-centered design (basic concepts of ergonomics)	12			12		24	24	1,5	925590
-> Introduction to Digital Art Technologies	24					24	24	1,5	925592
-> Economy, Geopolitics and international Geostrategy	24					24	24	1,5	925595
-> Fundamentals of project engineering and commercial Negotiation	24					24	24	1,5	925598
-> Production Management	16			8		24	24	1,5	925599
Unit 9-4 - Final year Project							100	7	
Final year Project					100	100	100	7	115100
Unit 9-5 Languages							52	3	
Second Language									
-> German			20			20	20	0,75	115012
-> Spanish			20			20	20	0,75	115013
-> French			20			20	20	0,75	115014
English			20			20	20	1,75	115011
Remedial English or professional language			12			12	12	0,5	115841
Total :							402	30	

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* The list of cross-disciplinary modules may change from one academic year to the other.

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Semester 10

Course	Lec.	LwT	Tut.	Prac.	Project	Course Hours	Student Hours	ECTS Credits	Code
Unit 10-2 Engineer Placement : 5 months starting in February							300	23	
Engineer Placement					300	300	300	23	116030
Unit 10-1 Final Year Project							100	7	
Final Year Project			100			100	100	7	116020
Total :							400	30	

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